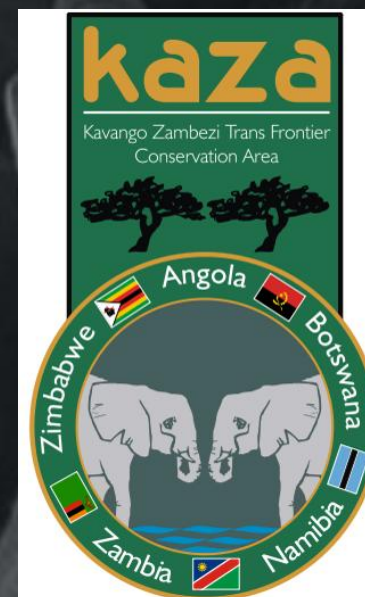


STATE OF LIVESTOCK IN KAZA TFCA – progress report

17 JUNE 2025

Jacques van Rooyen / Hernu Swanepoel / Laura Rosen



Project of :

Funded by :

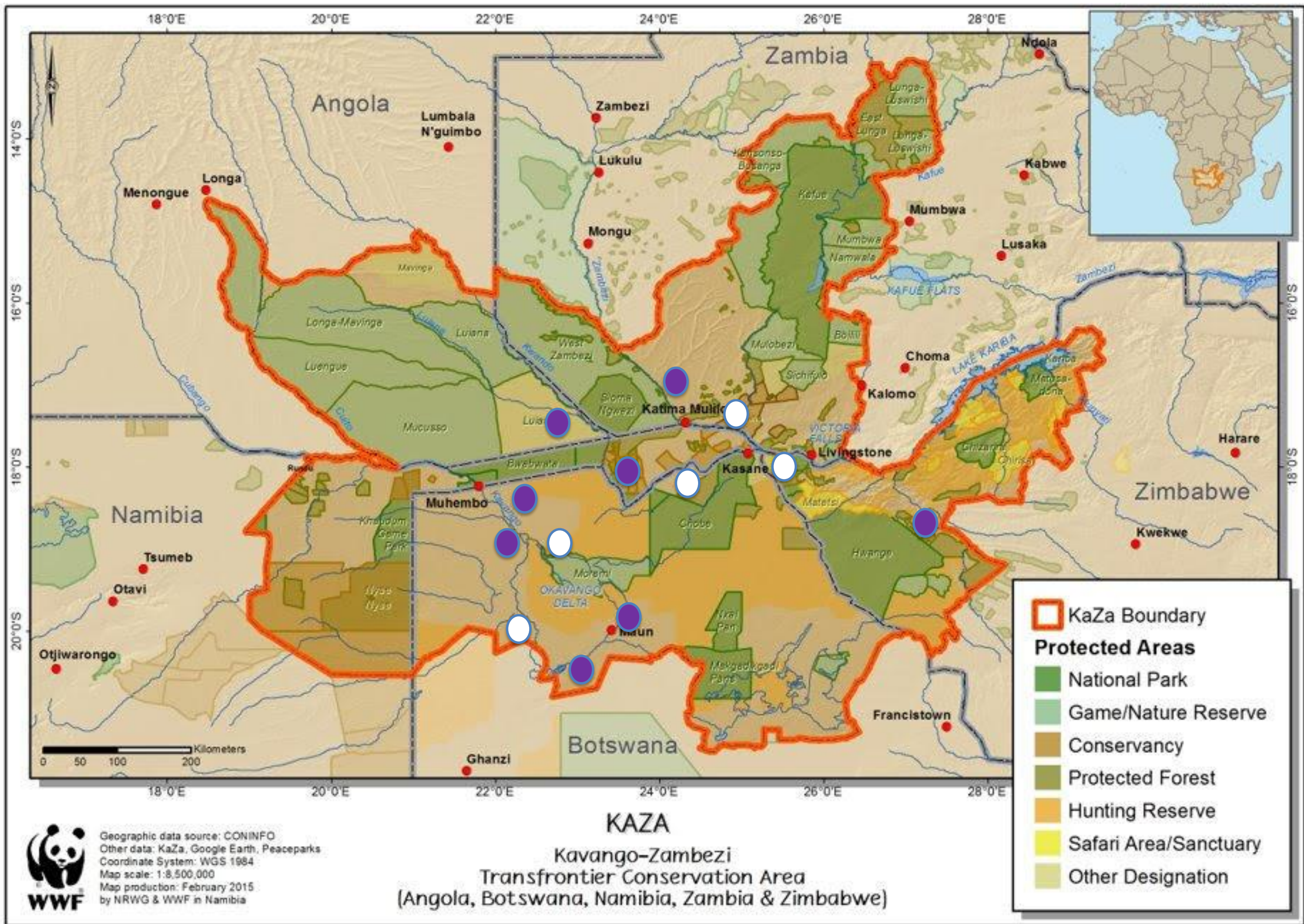


Lead by :



NAME CHANGE & RE-BRANDING





SoLK PROJECT OBJECTIVES

Determine and map the distribution and density of livestock (cattle mainly, but shoats also) at as fine a scale as possible by using all available data sources and collecting data where needed to fill gaps in priority areas to provide a robust, integrated source of livestock numbers and distribution, alongside that of wildlife throughout the KAZA TFCA.

The aim is for such information to **inform and guide the development of specific strategies and activities within KAZA**, most notably that of human-wildlife conflict (HWC) mitigation, wildlife dispersal area (WDA) development, disease control, livelihood development, enterprise development, landscape restoration and climate change adaptation in line with the KAZA TFCA Treaty.

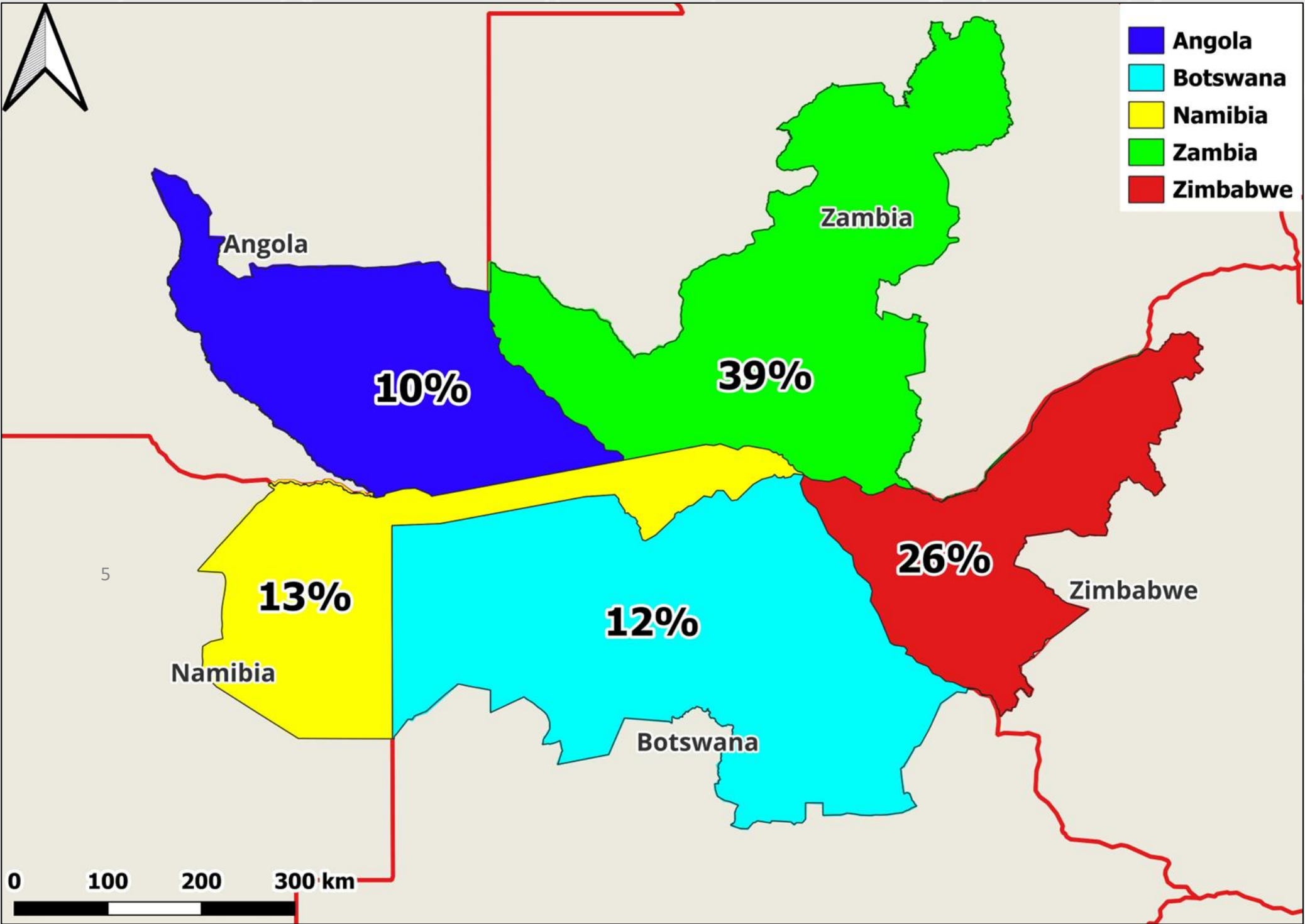
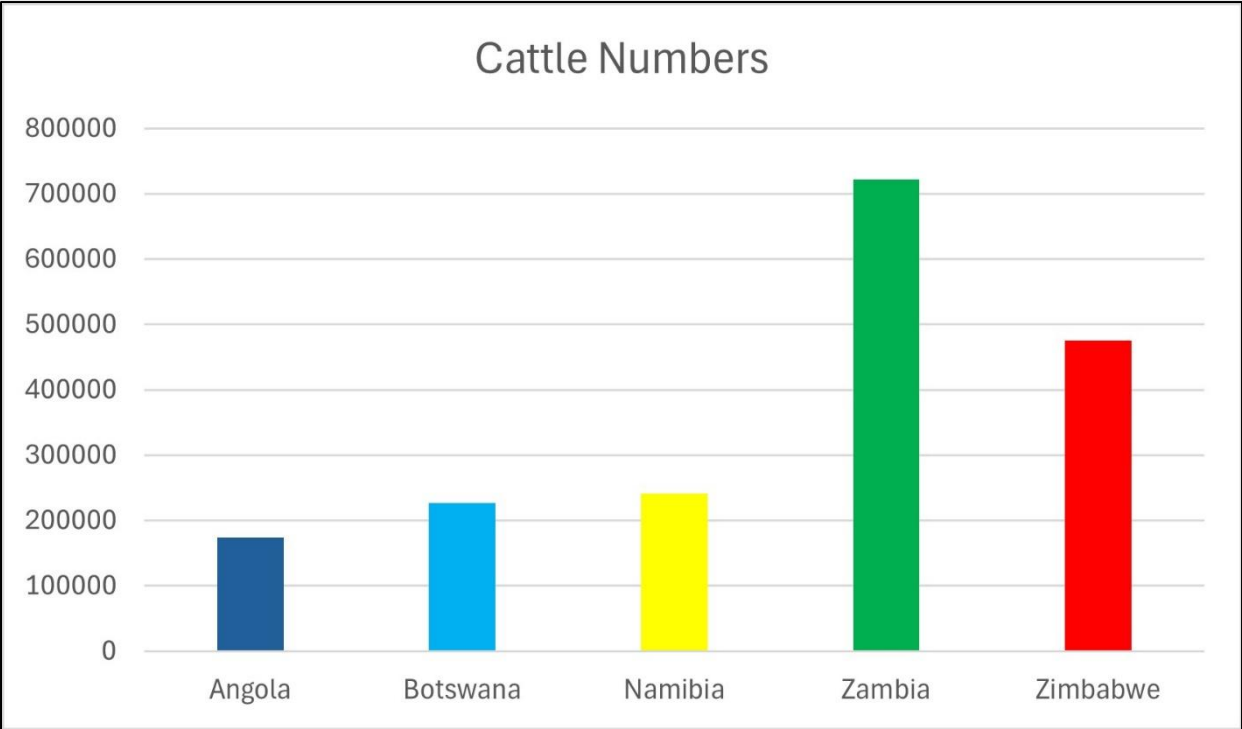
Determine and map natural resource quality and availability gradients on the interface between wildlife and livestock systems to highlight areas of environmental degradation and where competition for grazing and water resources could bring about land use tension. where restoration should be prioritized.

The Project will be conducted in a **Phased approach** with Phase I having been funded and launched in June 2024 finishing February 2025.



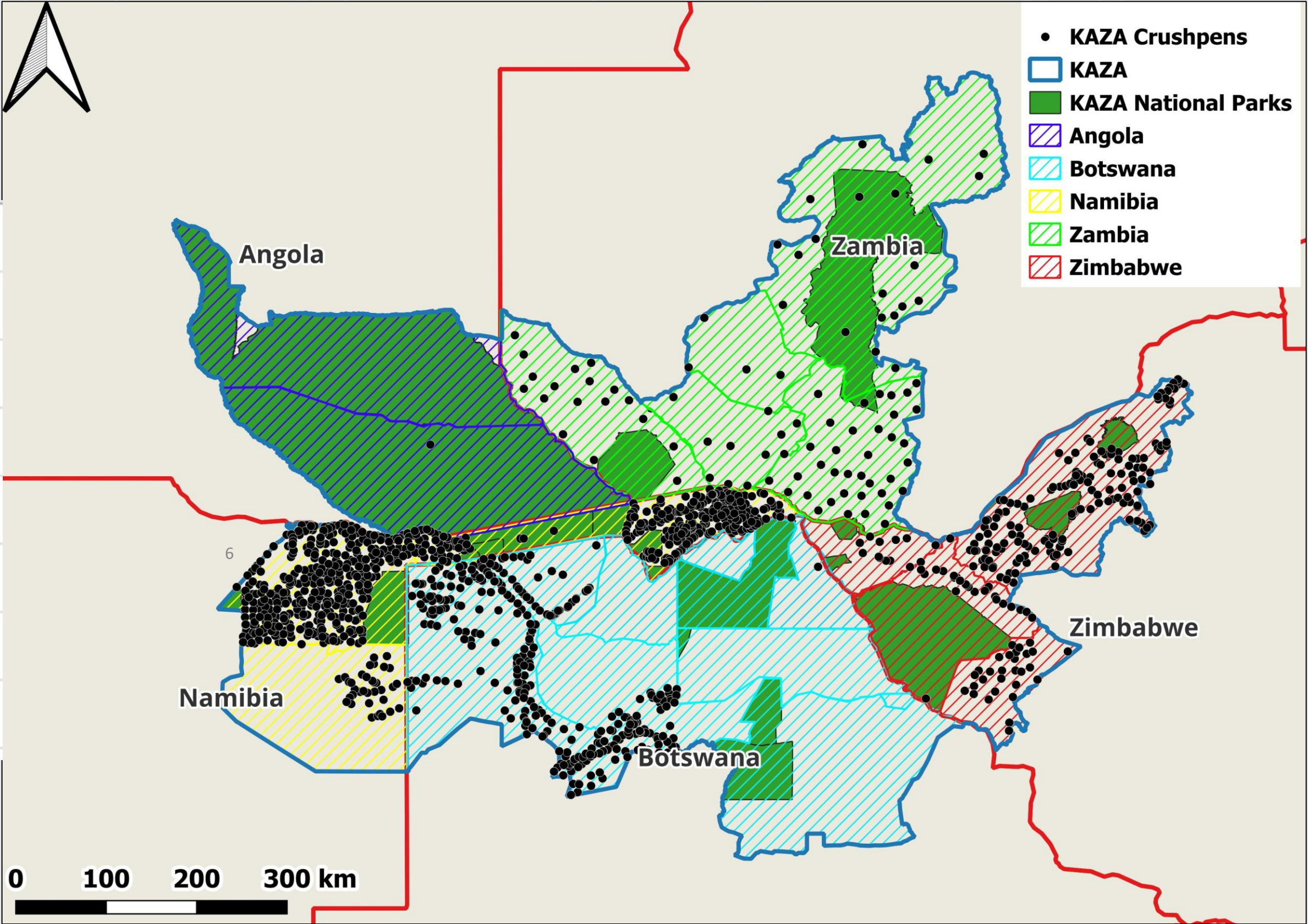
Livestock Distribution: current data, still refined

Cattle Numbers		
Country	Cattle	Percentage
Angola	174,255	9
Botswana	226,533	12
Namibia	240,871	13
Zambia	721,638	39
Zimbabwe	474,740	26
Total	1,838,037	100



Livestock Distribution: all data received

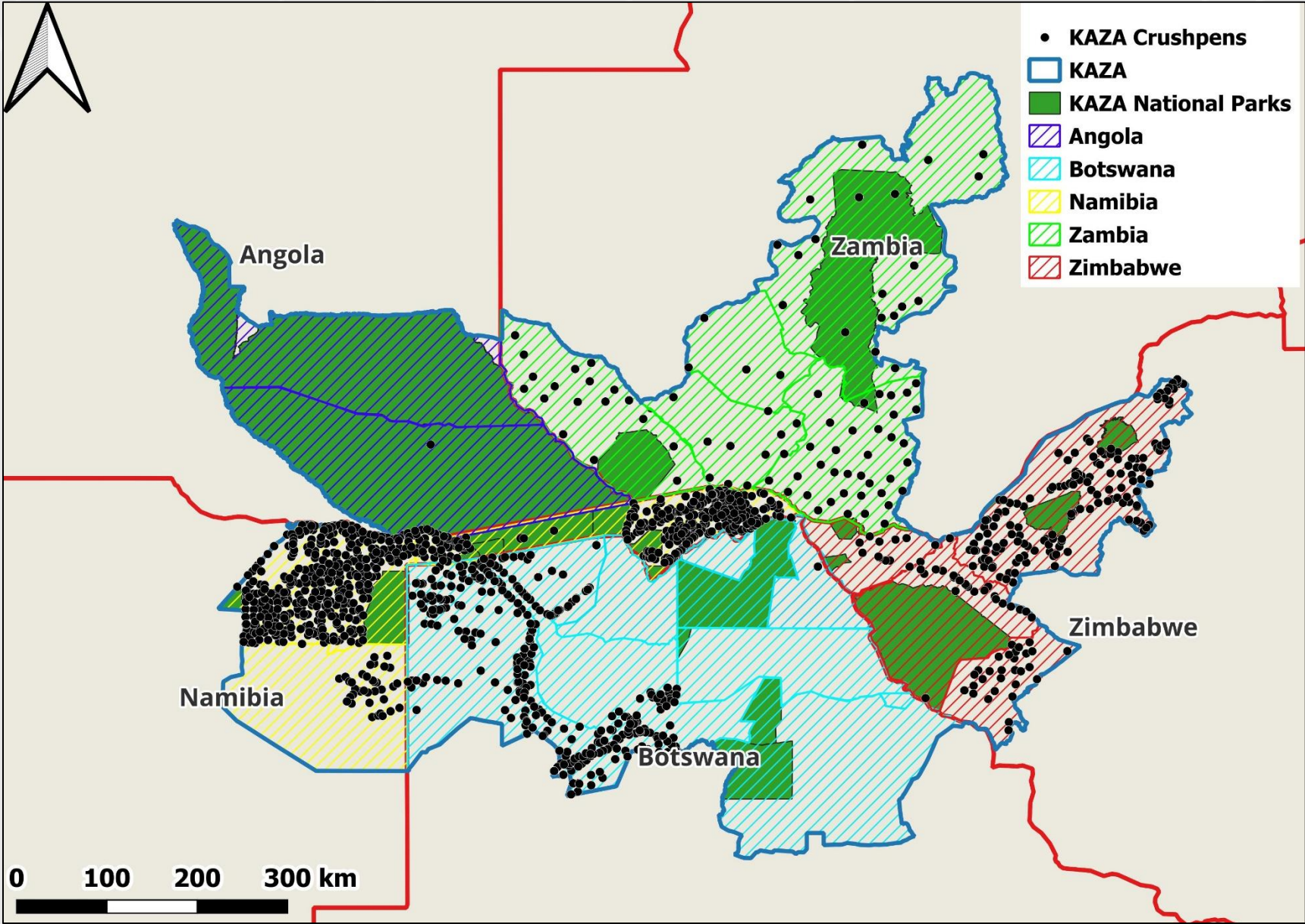
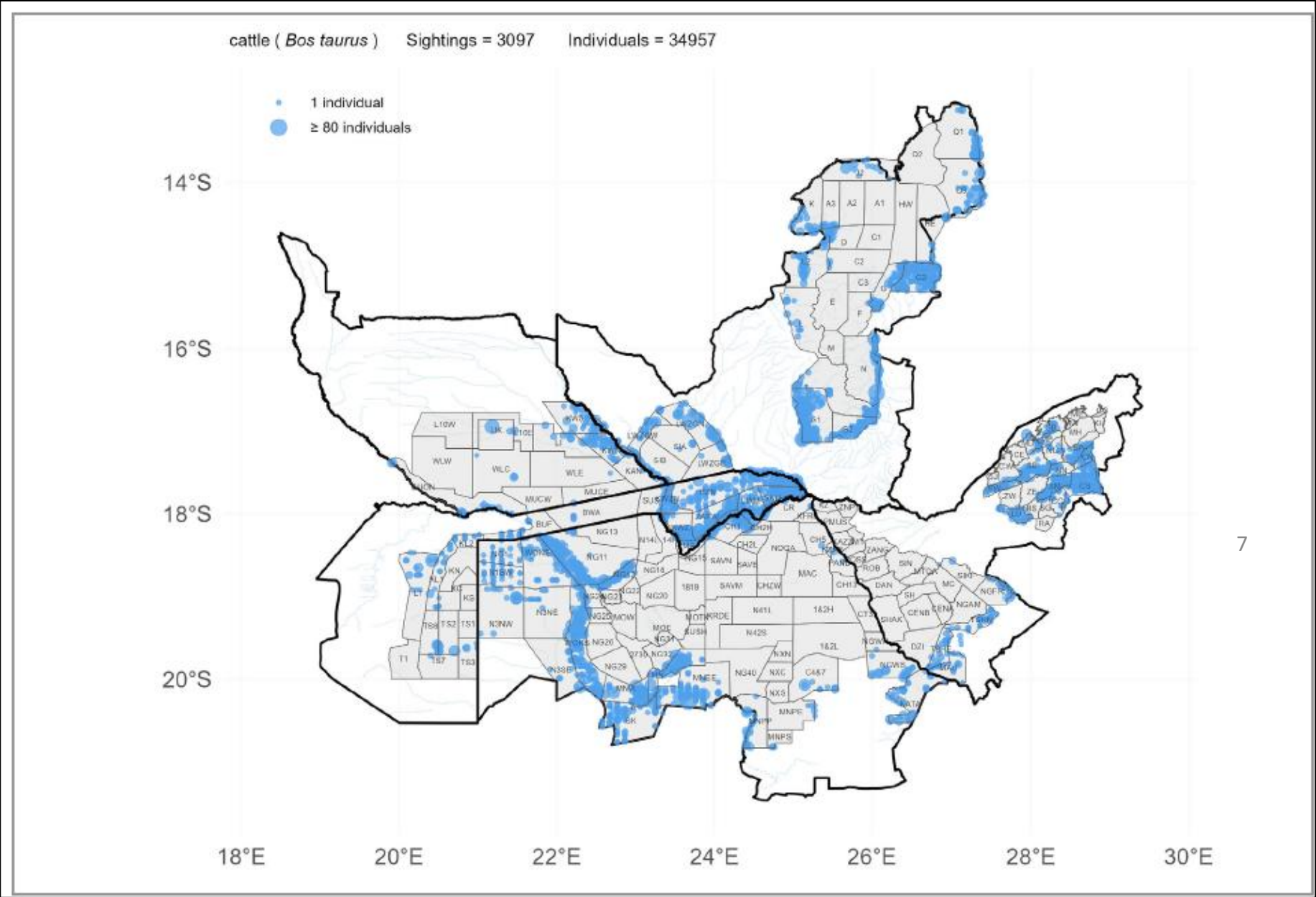
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Total	1,838,037	100



Livestock Distribution: Elephant survey vs SoLK

KAZA Elephant Survey: Cattle total 536,623

SoLK estimate: Cattle total 1,838,037*

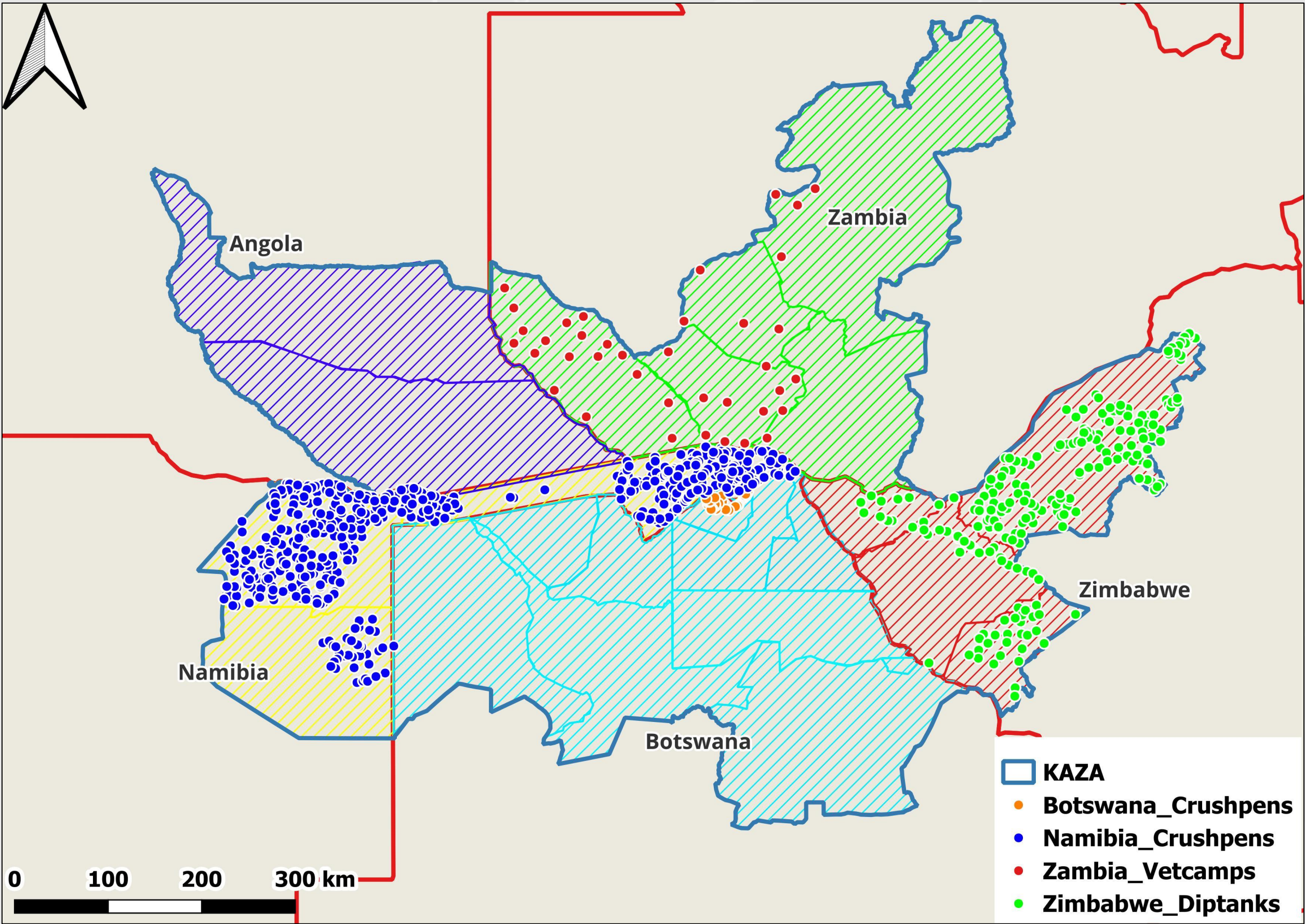


* This is still an estimate and not the final figure as data from some areas are not yet complete. It may be either an underestimation or overestimation at this stage

Livestock Distribution: Overall DATA GAPS

Crushpen Numbers				
Country	Crushpens with Coordinates	Crushpens without coordinates	Crushpen with Cattle	Crushpen without Cattle
Angola	0	0	0	0
Botswana	501	969	969	501
Namibia	664	0	664	386
Zambia	216	24	116	124
Zimbabwe	491	50	389	152
Total	1872	1043	2138	1163

Livestock Distribution: crushpens with data

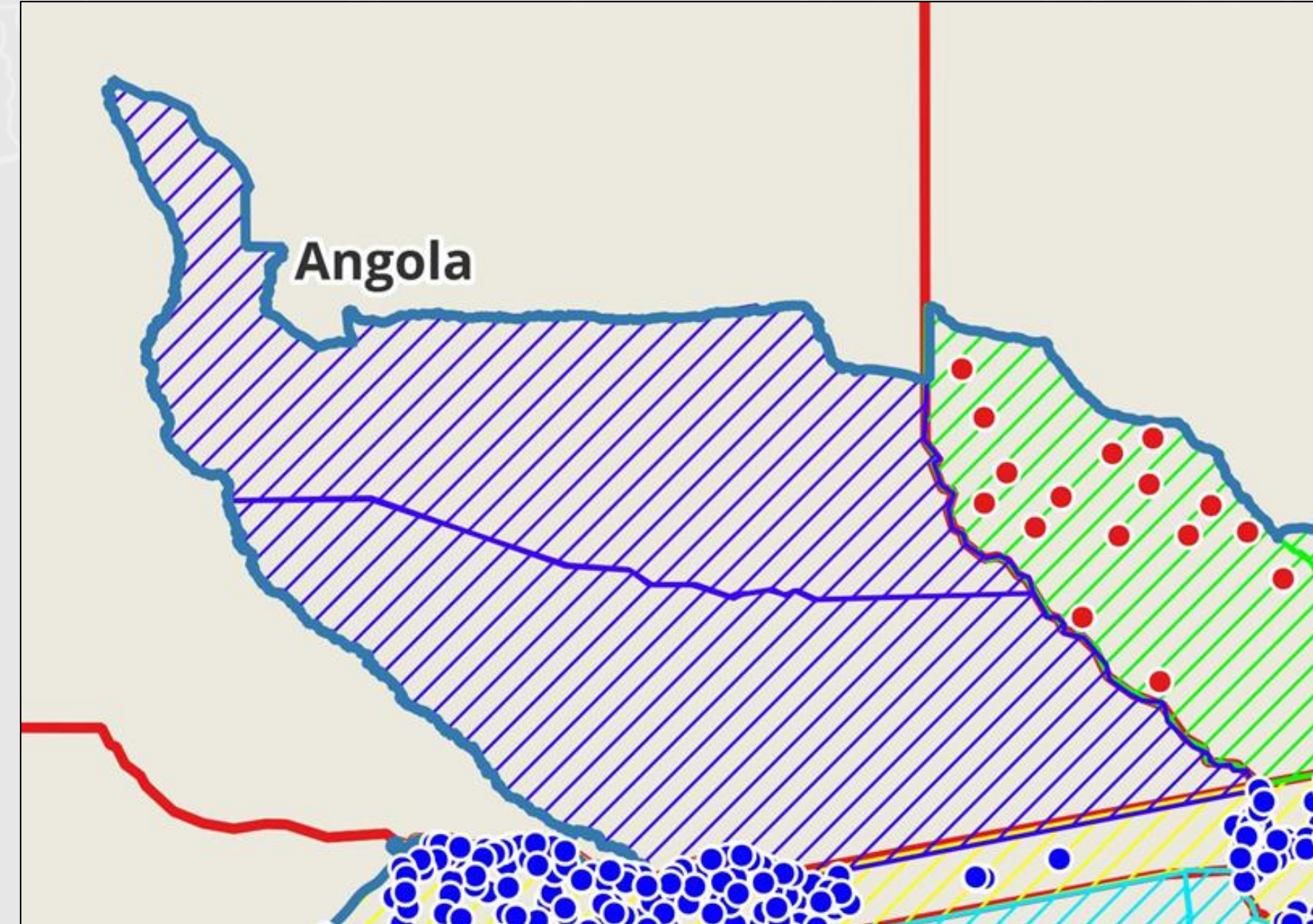


Livestock Distribution: Angola data GAPS

Municipality	Cattle	Goats	Sheep
Dirico	27071	18000	1600
Rivungo	49022	12600	2438
Mavinga	44122	21599	2060
Menongue	54040	28038	5500

GAPS:

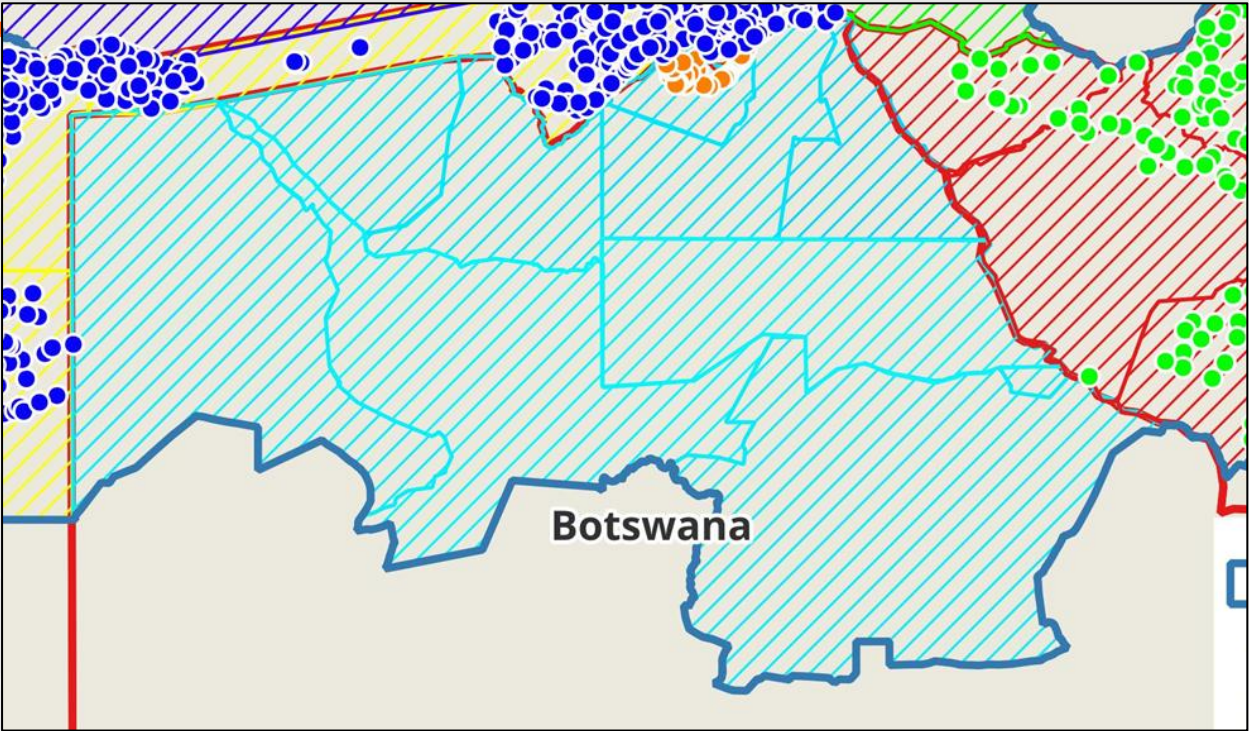
- Location-based data lacking
- Collaborate to see how we can fill the gap
- Where does the Municipal-based data come from?



10

Livestock Distribution: Botswana data GAPS

Crushpen Numbers				
Country	Crushpens with Coordinates	Crushpens without coordinates	Crushpen with Cattle	Crushpen without Cattle
Botswana	501	969	969	501

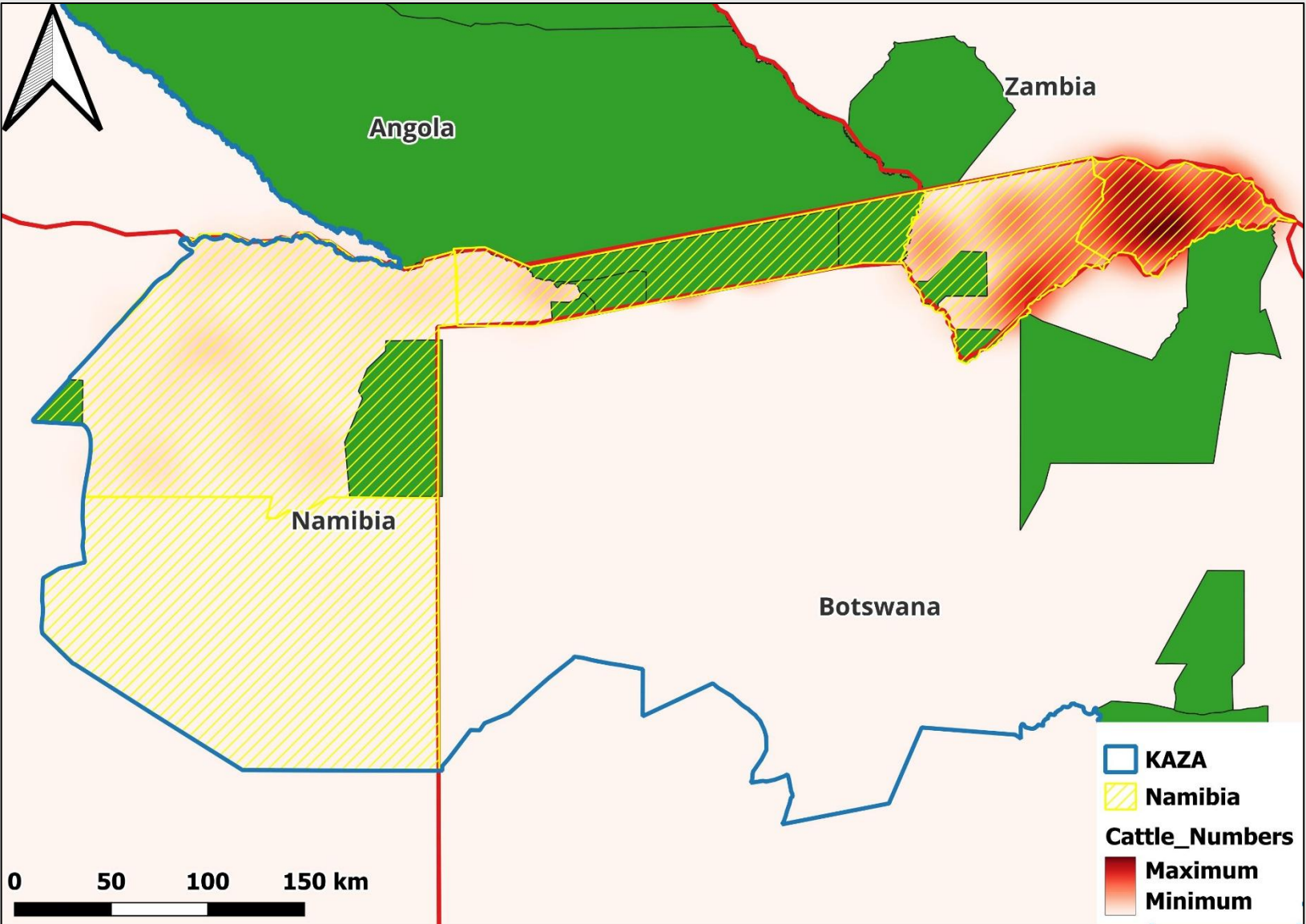
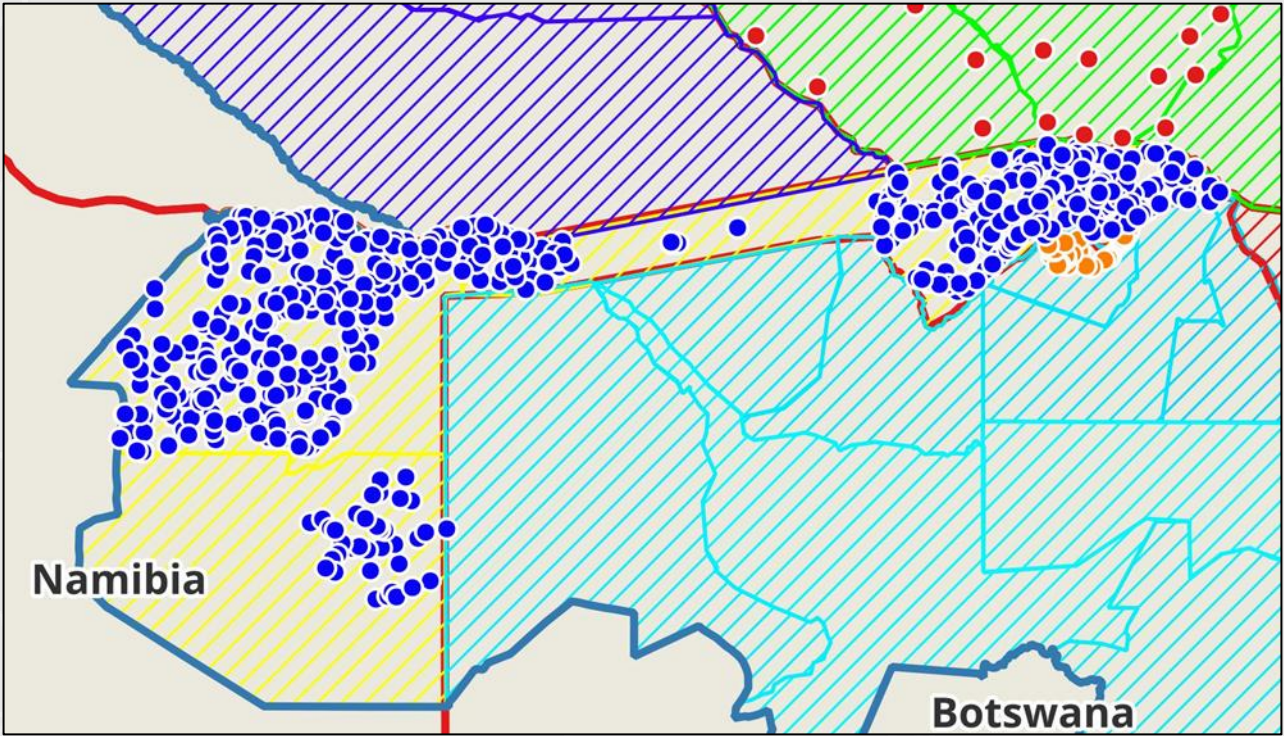


Country	District	Type	Name	Lat	long	Cattle	Goats	Sheep
Botswana	Ngamiland District	Crushpens	SHOROBÉ / SHOROBÉ	-19.7524662	23.66571617			
Botswana	Ngamiland District	Crushpens	SHOROBÉ / SHOKOMOKWA	-19.71001625	23.70229912			
Botswana	Ngamiland District	Crushpens	TOTENG / MMAKGOKONG	-20.33805084	23.04705048			
Botswana	Ngamiland District	Crushpens	TOTENG / MOUMO	-20.35000038	22.97999954			
Botswana	Ngamiland District	Crushpens	TOTENG / LEGOTHWANA I	-20.37549973	22.82613373			
Botswana	Ngamiland District	Crushpens	TOTENG / LEGOTHWANA II	-20.37698364	22.87181664			
Botswana	Ngamiland District	Crushpens	TOTENG / MATSENTSELA	-20.34108353	22.90195084			
Botswana	Ngamiland District	Crushpens	TOTENG / MAKOLA	-20.2860508	22.96456718			
Botswana	Ngamiland District	Crushpens	TOTENG / TOTENG	-20.35000038	22.95000076			
Botswana	Chobe	Crushpens	LEGOTHWANE			740	257	0
Botswana	Chobe	Crushpens	SERIBA			532	160	0
Botswana	Chobe	Crushpens	KAVIMBA			762	254	0
Botswana	Chobe	Crushpens	SHANDWEZA			363	41	0
Botswana	Chobe	Crushpens	KASALE			121	41	0
Botswana	Chobe	Crushpens	KACHIKAU			347	56	0
Botswana	Chobe	Crushpens	KATABA			296	38	0
Botswana	Chobe	Crushpens	DATISA			01	15	0

- GAPS:**
- Misalignment of animal & spatial data
 - Support to align livestock data with spatial data
 - Believe it is available – just a matter of helping to get it and put in the right format
 - How can we assist?

Livestock Distribution: Namibia data GAPS

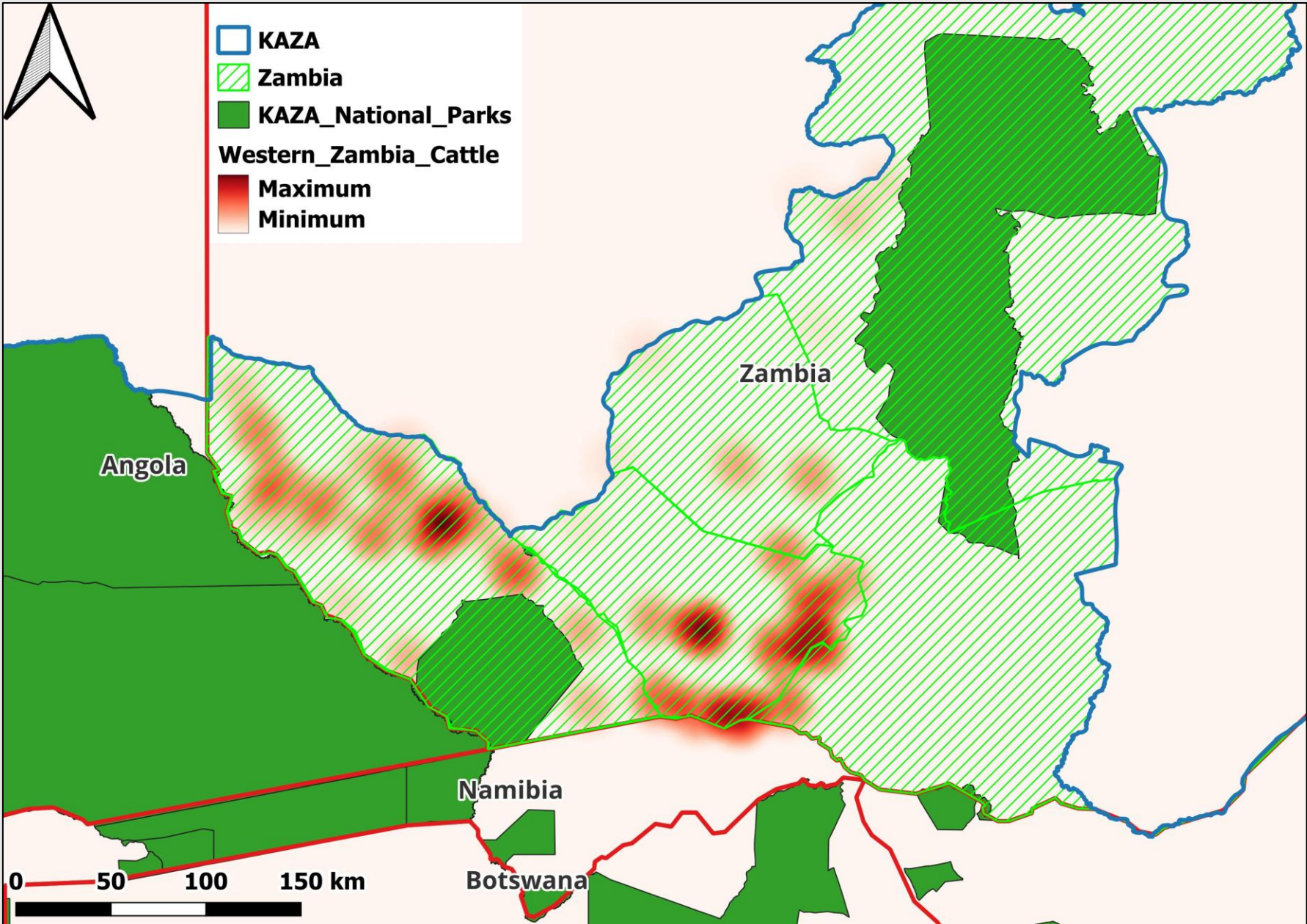
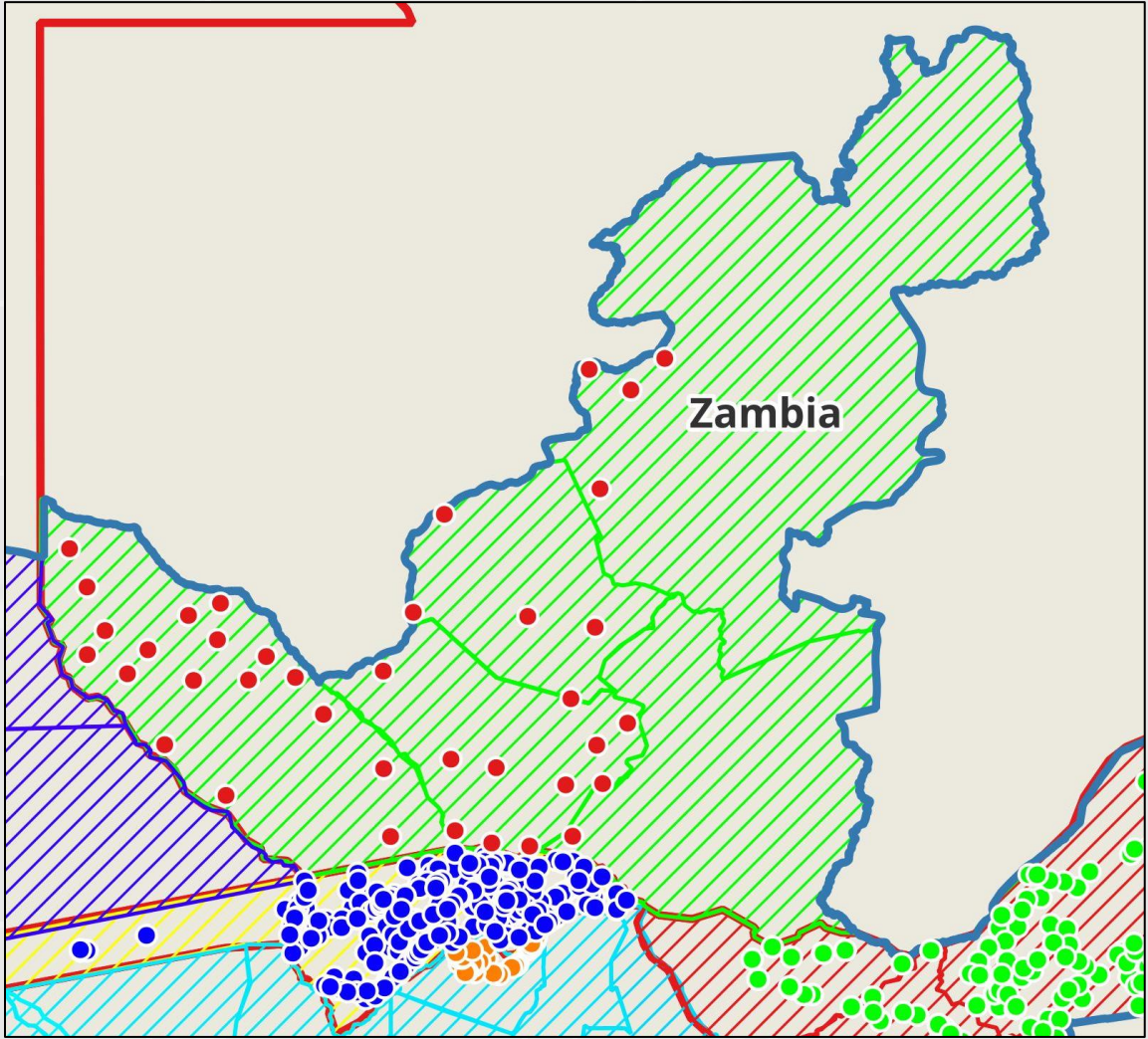
Crushpen Numbers				
Country	Crushpens with Coordinates	Crushpens without coordinates	Crushpen with Cattle	Crushpen without Cattle
Namibia	664	0	664	386



- GAPS:**
- Some data GAPS, support to fill these data gaps

Livestock Distribution: Zambia data GAPS

Crushpen Numbers				
Country	Crushpens with Coordinates	Crushpens without coordinates	Crushpen with Cattle	Crushpen without Cattle
Zambia	216	24	116	124



- GAP:**
- Crushpen data under VET CAMPS
 - Assistance to get VET CAMP coordinates for Southern & Central Provinces

Livestock Distribution: Zambia data GAPS

Western Province Data

District	CAMP	NUMBER OF CATTLE	NUMBER OF CRUSH PENS	X-Coordinate	Y-Coordinate
MONGU DISTRICT	NAMUSHAKENDE	15038	10	23.20188371	-15.39019286
MONGU DISTRICT	SIWITO	13720	6	23.0331599	-15.21239973
MONGU DISTRICT	KAAMA	10321	11	22.93038498	-15.35024082
MONGU DISTRICT	TUNGI	8455	8	23.0495909	-15.31431719
MONGU DISTRICT	LUANDUI	6000	17	23.47790765	-15.43698905
MONGU DISTRICT	LITAWA	3950	14	23.61864662	-15.61671266
MONGU DISTRICT	MONGU CENTRAL	3150	10	23.40989098	-15.24394273
MONGU DISTRICT	LWATEMBO	3090	19	23.94581933	-15.31837537
SIKONGO DISTRICT	NGOMBE	8000	23	22.35634278	-14.91603816
SIKONGO DISTRICT	SIKONGO A	4000	15	22.19018333	-15.23628099
SIKONGO DISTRICT	LUETI	4000	13	22.26442876	-15.53255289
SIKONGO DISTRICT	SIKONGO B	3500	21	22.10957086	-14.8708998
SIKONGO DISTRICT	NGUMBELE	3500	6	22.14049107	-15.85398023
SIKONGO DISTRICT	KALUWE	2000	6	22.10874413	-14.6080756
LIMULUNGA DISTRICT	LIMULUNGA CENTRAL	25000	14	23.09300673	-15.06877029
LIMULUNGA DISTRICT	SITOYA	4500	6	23.52385919	-14.77837932
LIMULUNGA DISTRICT	USHAA	4000	7	23.32982925	-14.99765302

GAP: Assist to get coordinates of Crushpens that feed into Vet Camps

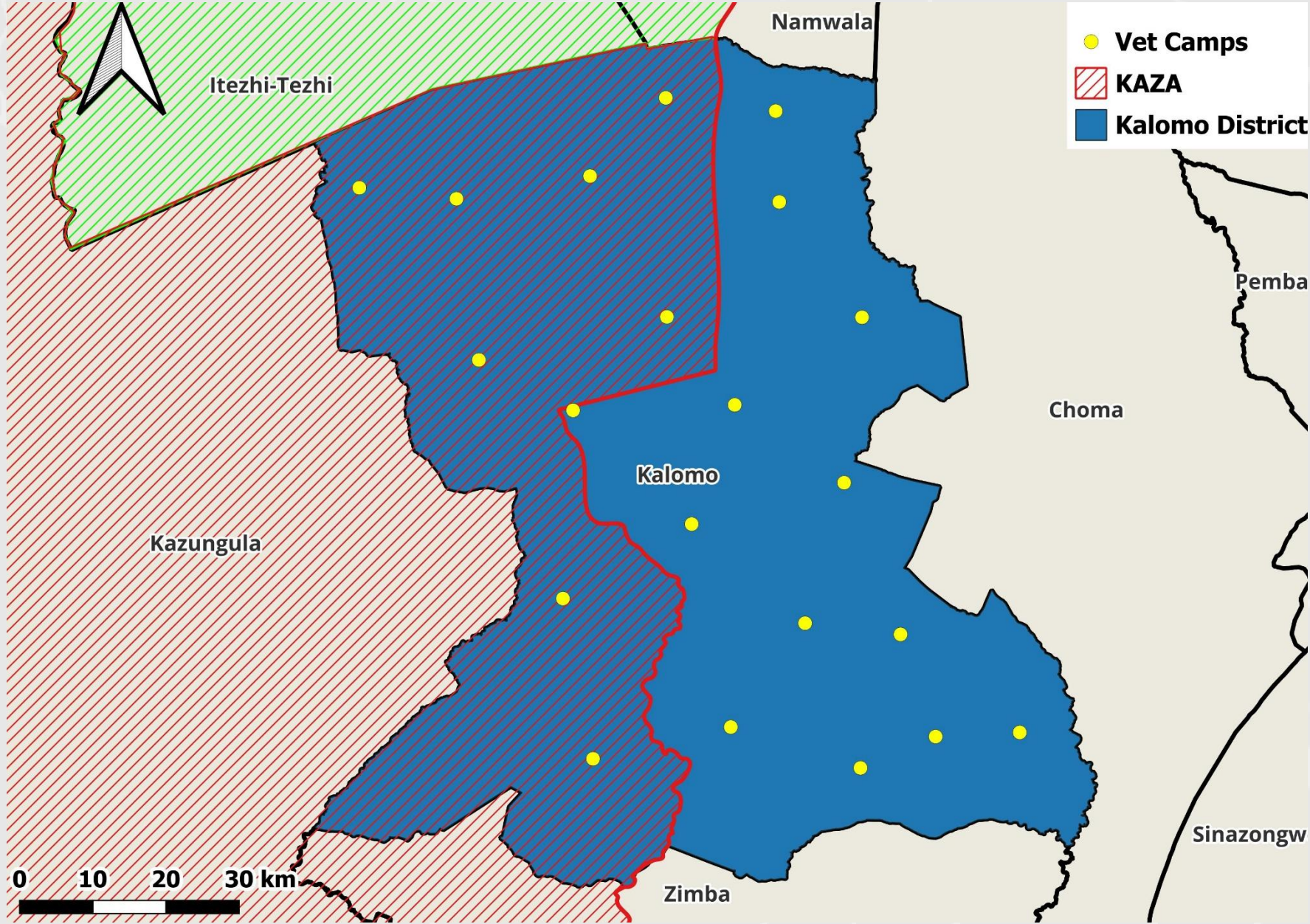
Livestock Distribution: Zambia data GAPS

Central & Southern Province Data

ESTIMATED LIVESTOCK STATISTICS FOR PROVINCES_2023

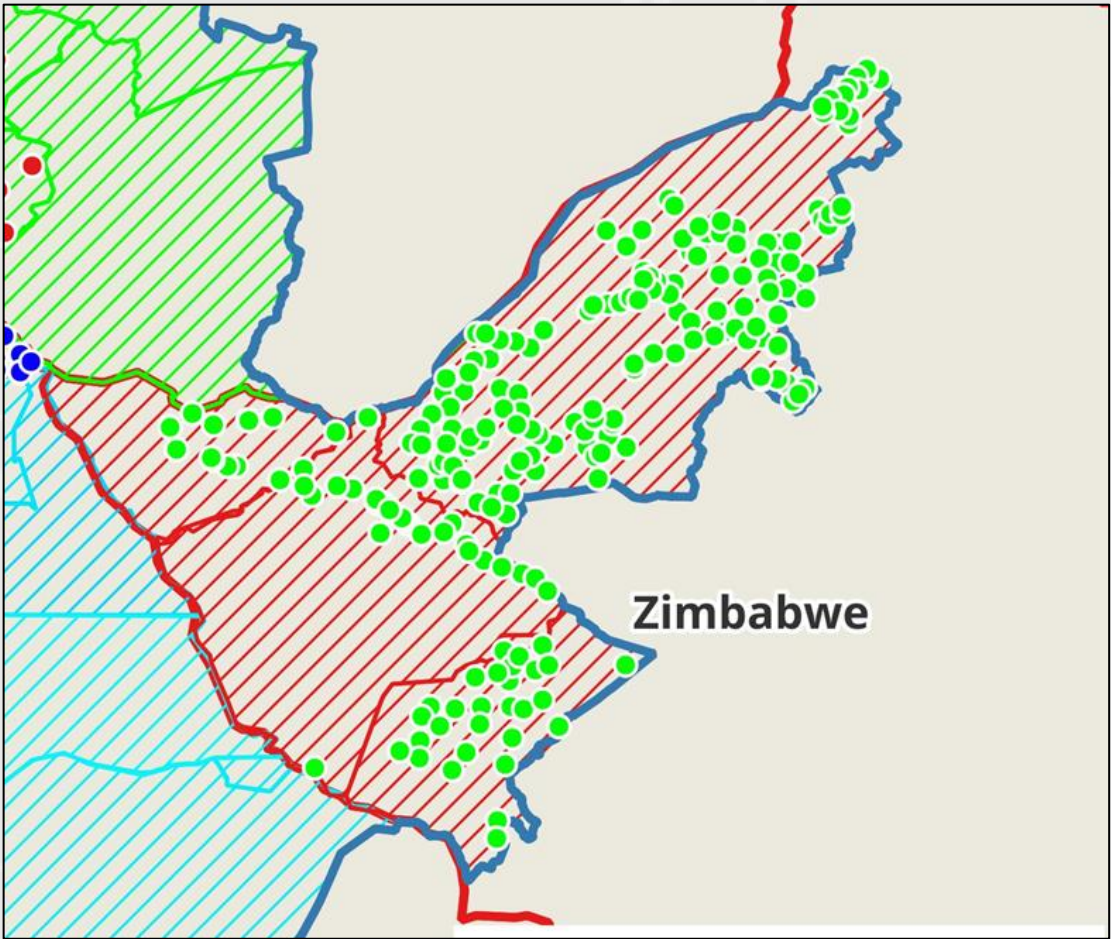
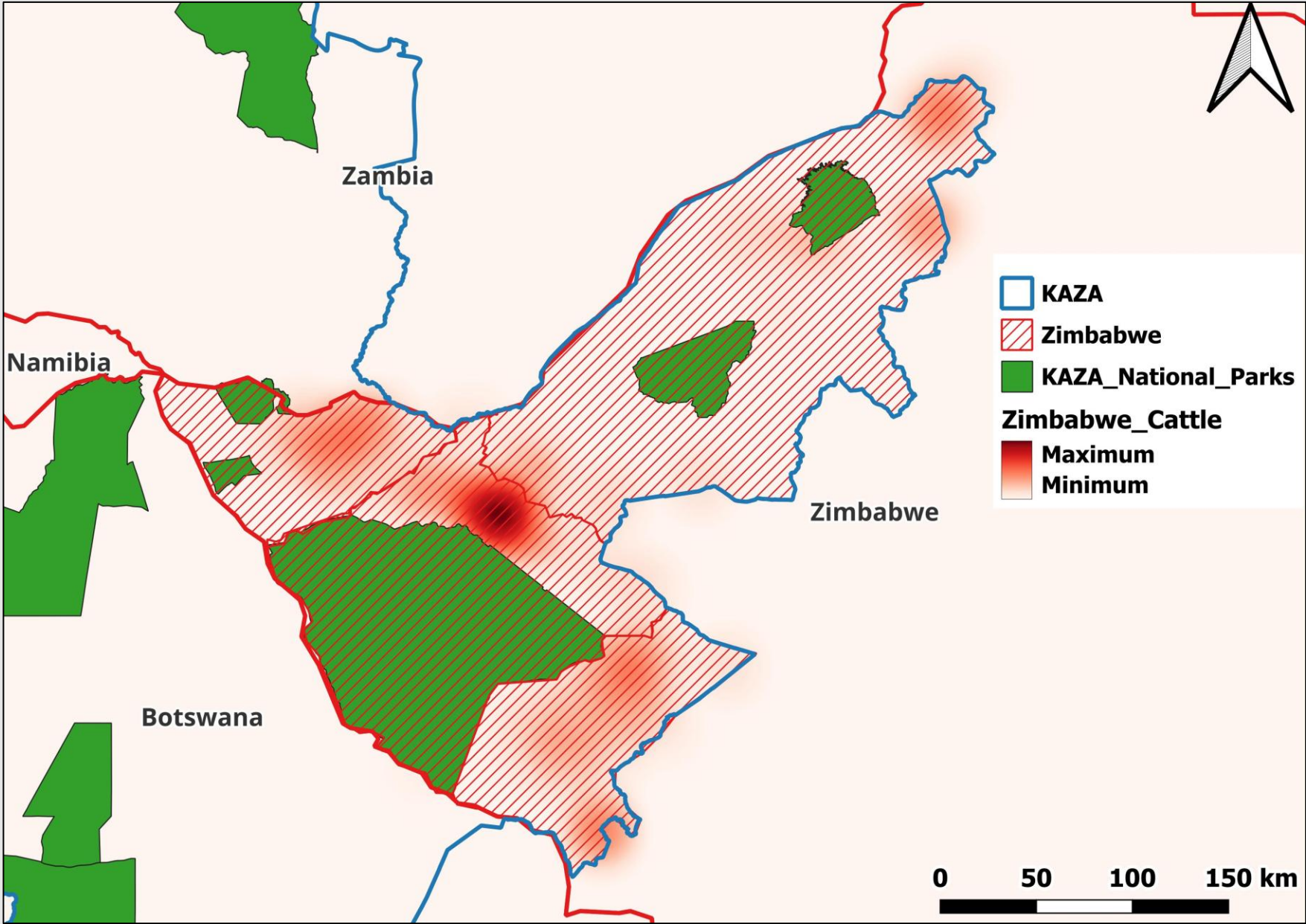
1. SOUTHERN PROVINCE

Livestock population				
District	Cattle	Goats	Sheep	
Siavonga	29,532	39,000	20,808	95,467
Mazabuka	110,510	17,086	5,662	110,653
Monze	204,430	91,052	9,895	136,050
Kazungula	135,000	15,000	3,000	90,032
Sinazongwe	77,000	60,000	8,000	143,789
Gweembe	65,000	24,400	8,600	111,082
Namwala	165,000	42,640	2,098	198,335
Zimba	116,500	49,000	15,000	61,500
Choma	135,000	43,000	29,189	296,713
livingstone	9,500	2,500	1,000	62,000
Pemba	58,000	53,000	1,396	197,036
Chikankata	45,000	16,768	1,987	128,845
Itezhi tezhi	155,682	37,640	1,925	143,489
Chirundu	17,006	9,264	3,865	13,700
Kalomo	195,200	89,000	20,000	227,326
Totals	1,518,360	589,350	132,425	2,016,017



Livestock Distribution: Zimbabwe Data GAPS

Crushpen Numbers				
Country	Crushpens with Coordinates	Crushpens without coordinates	Crushpen with Cattle	Crushpen without Cattle
Zimbabwe	491	50	389	152

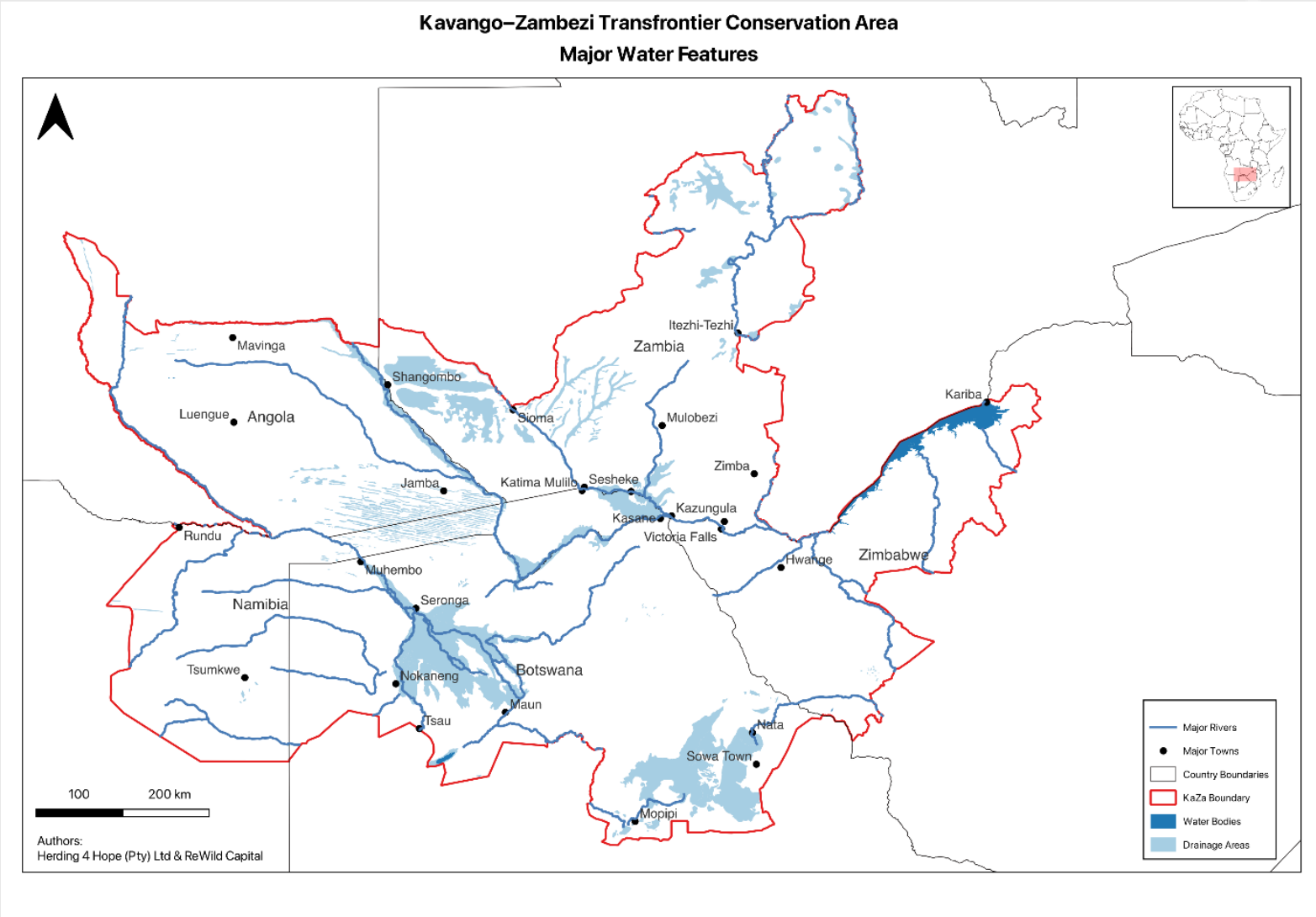


- GAPS:**
- Some data GAPS, support to fill these data gaps

Rangeland Assessment

Rewild Capital.

KAZA Rangeland Assessment



Goal	To provide an overview on rangeland condition across the Kavango-Zambezi Transfrontier Conservation Area (KAZA) to identify areas of concern and areas of good ecosystem functioning to benchmark best practice
Date	30 January 2025 (rev 31 March 2025)
Version	3
Authors	Dr Claire Davis-Reddy, Dr Zander Venter, Dr Matthew Child
Reviewers	Dr Jacques van Rooyen, Rudi Steyn, Hernu Swanepoel



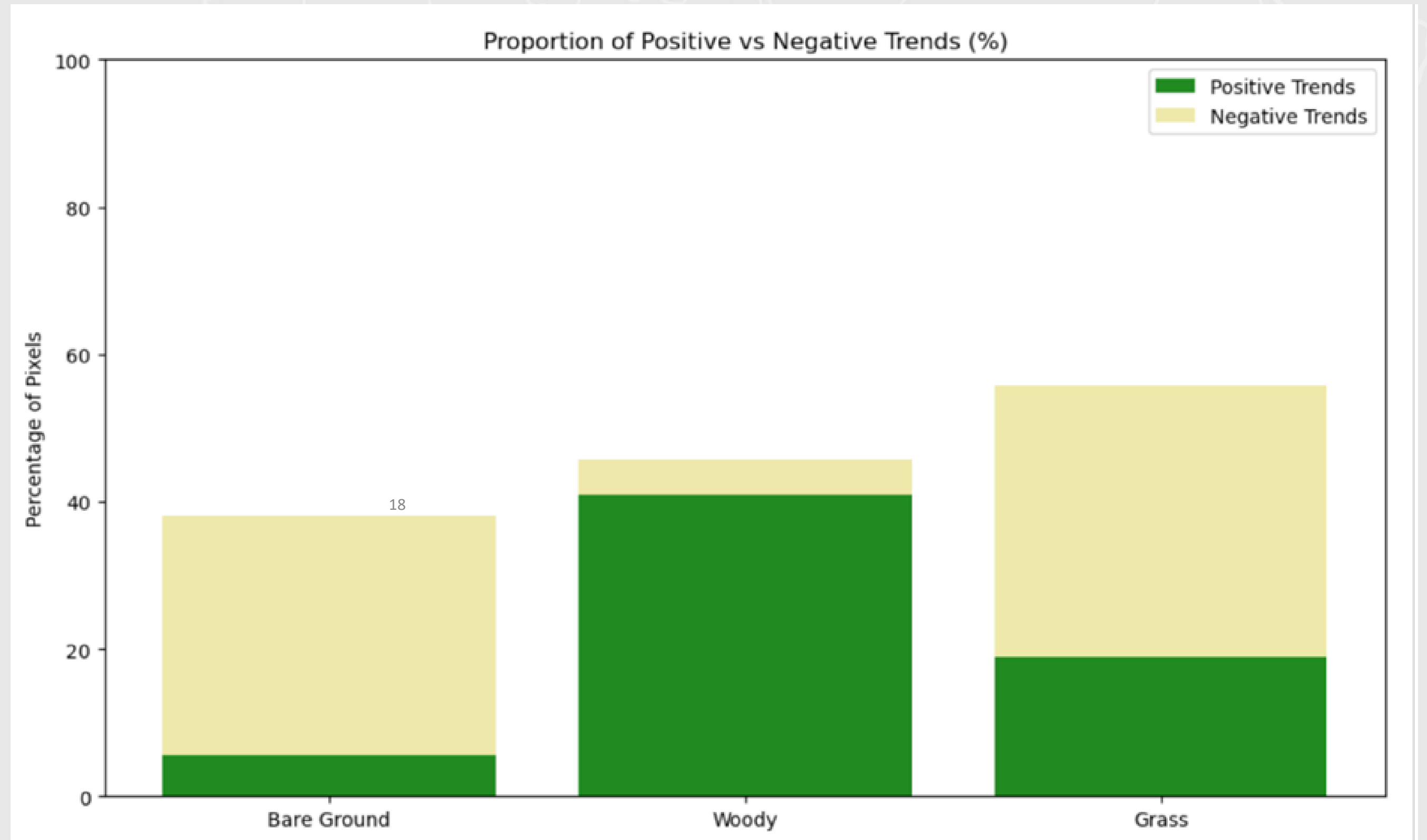
Rangeland Assessment

Grass Cover trend:

- 2013: 44% cover
- 2023: 32% cover

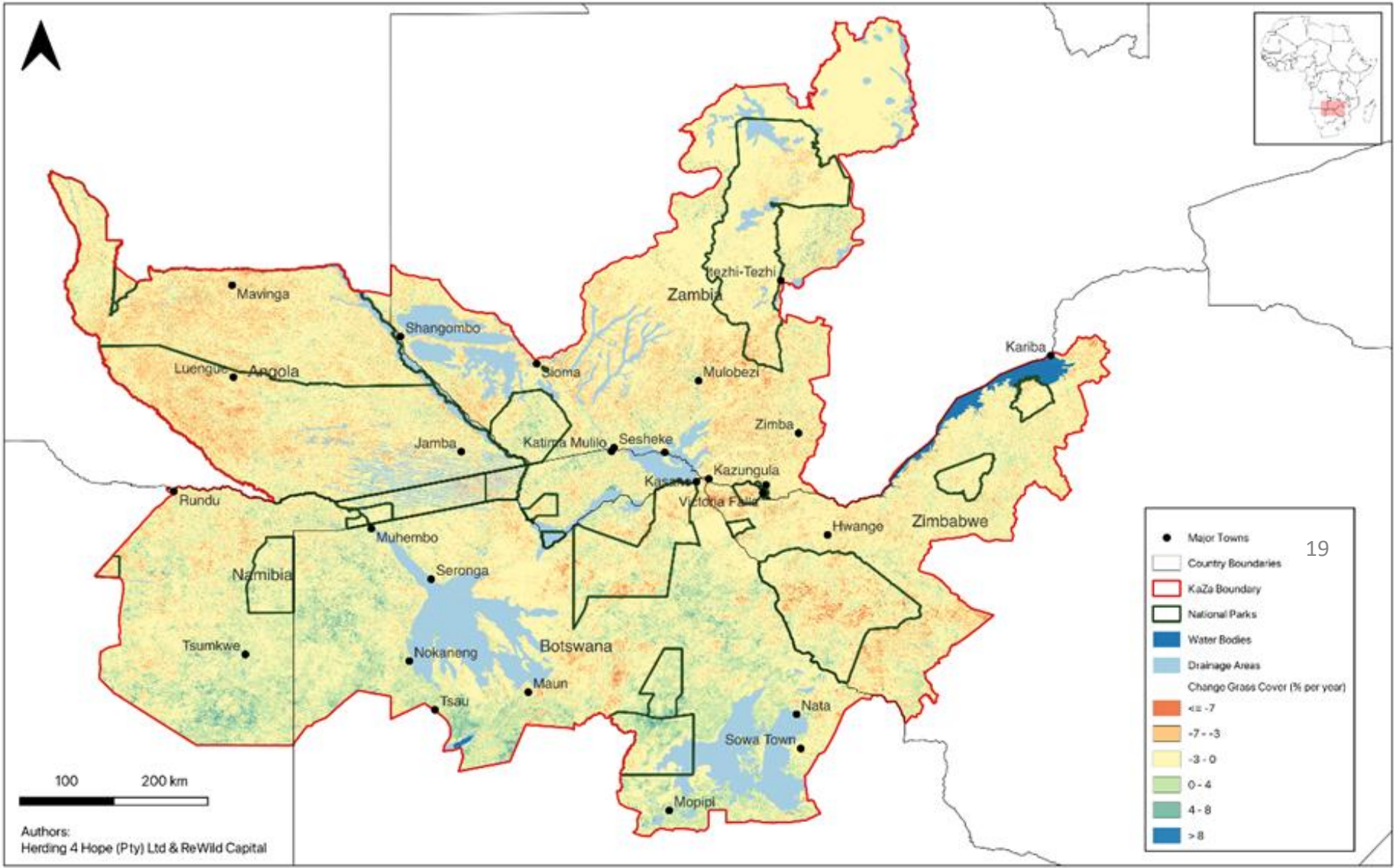
Woody Cover trend:

- 2013: 37% cover
- 2023: 52% cover

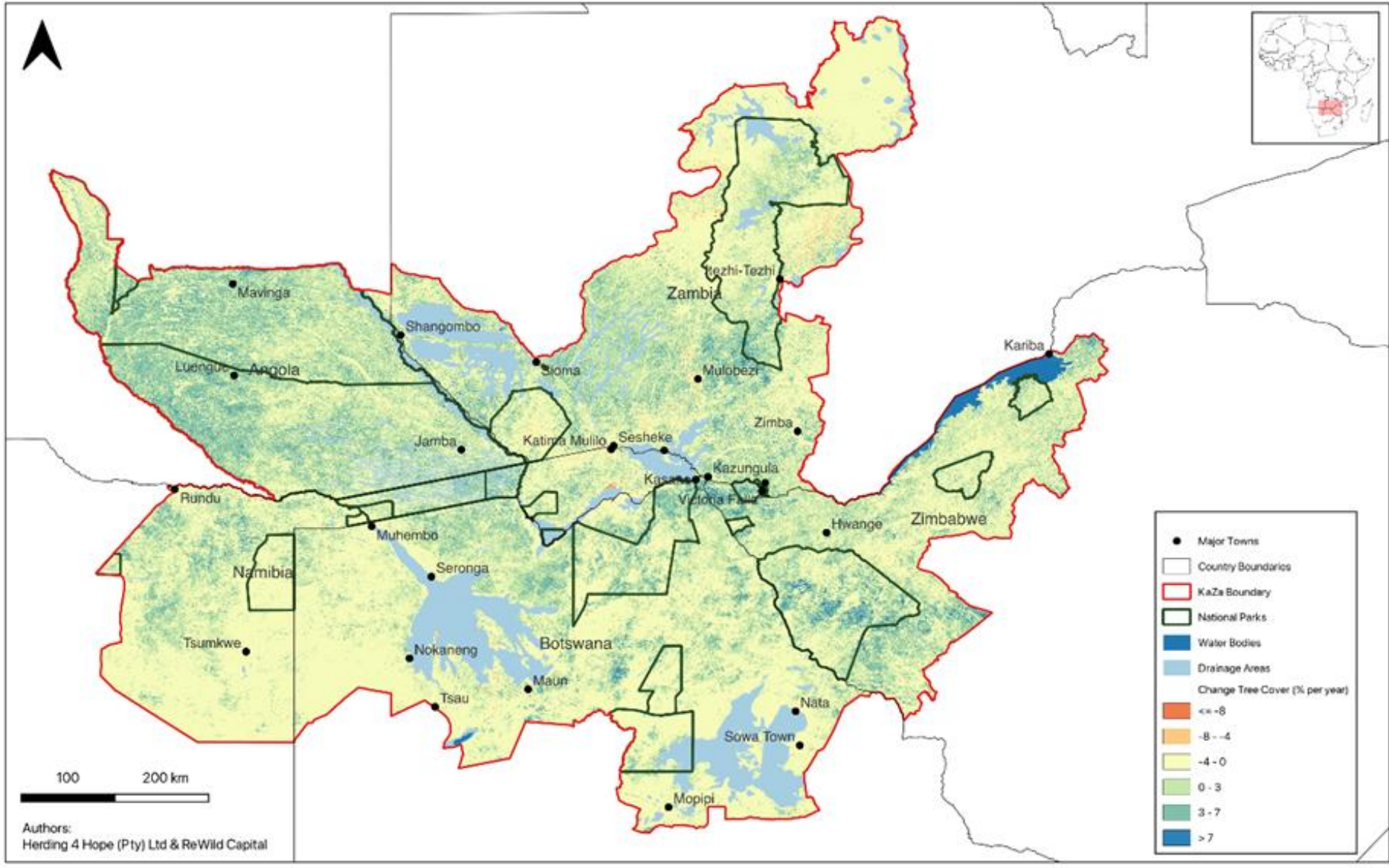


Rangeland Assessment

Kavango–Zambezi Transfrontier Conservation Area
Trend Fractional Cover Grass

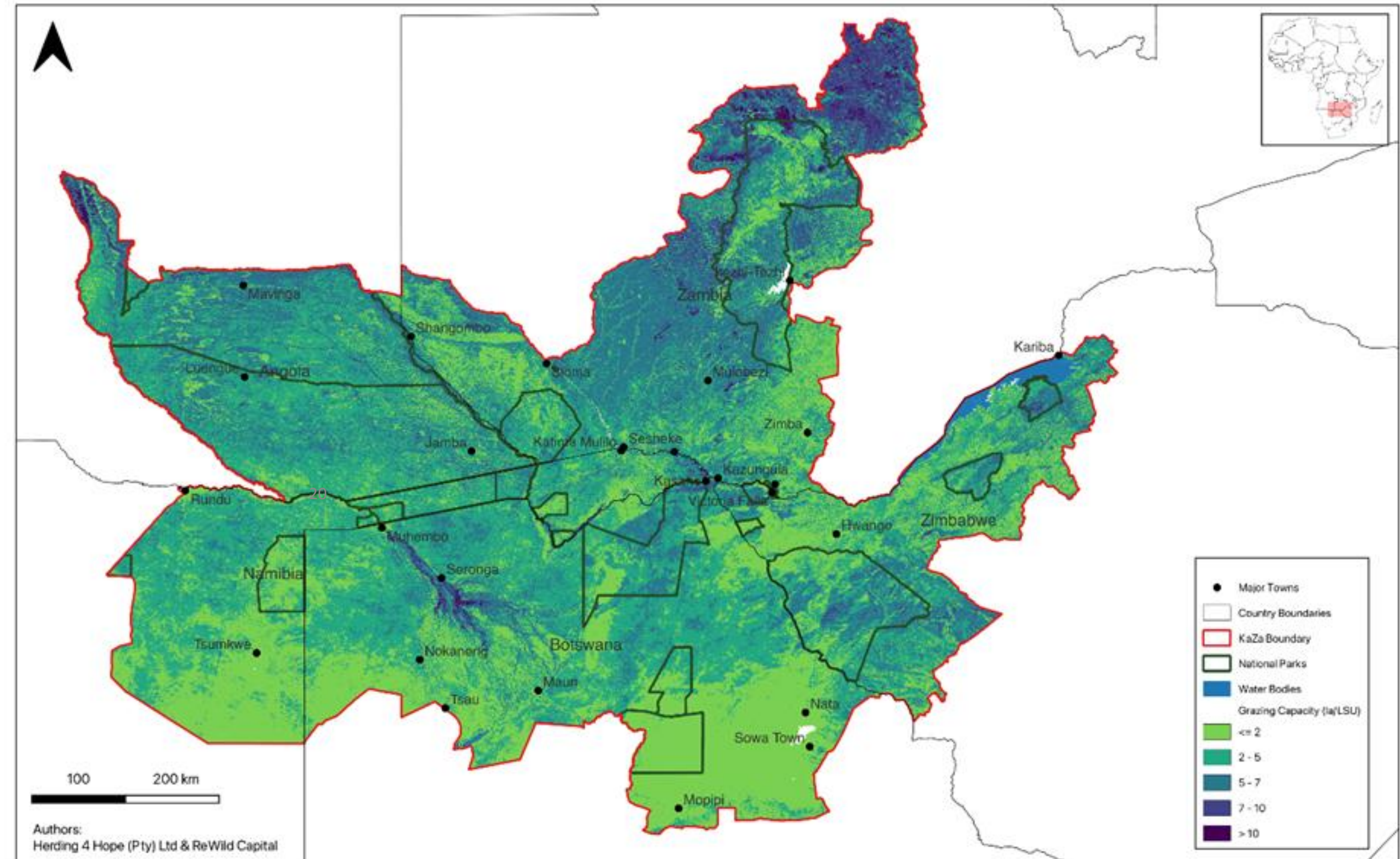


Kavango–Zambezi Transfrontier Conservation Area
Trend Fractional Cover Woody Vegetation



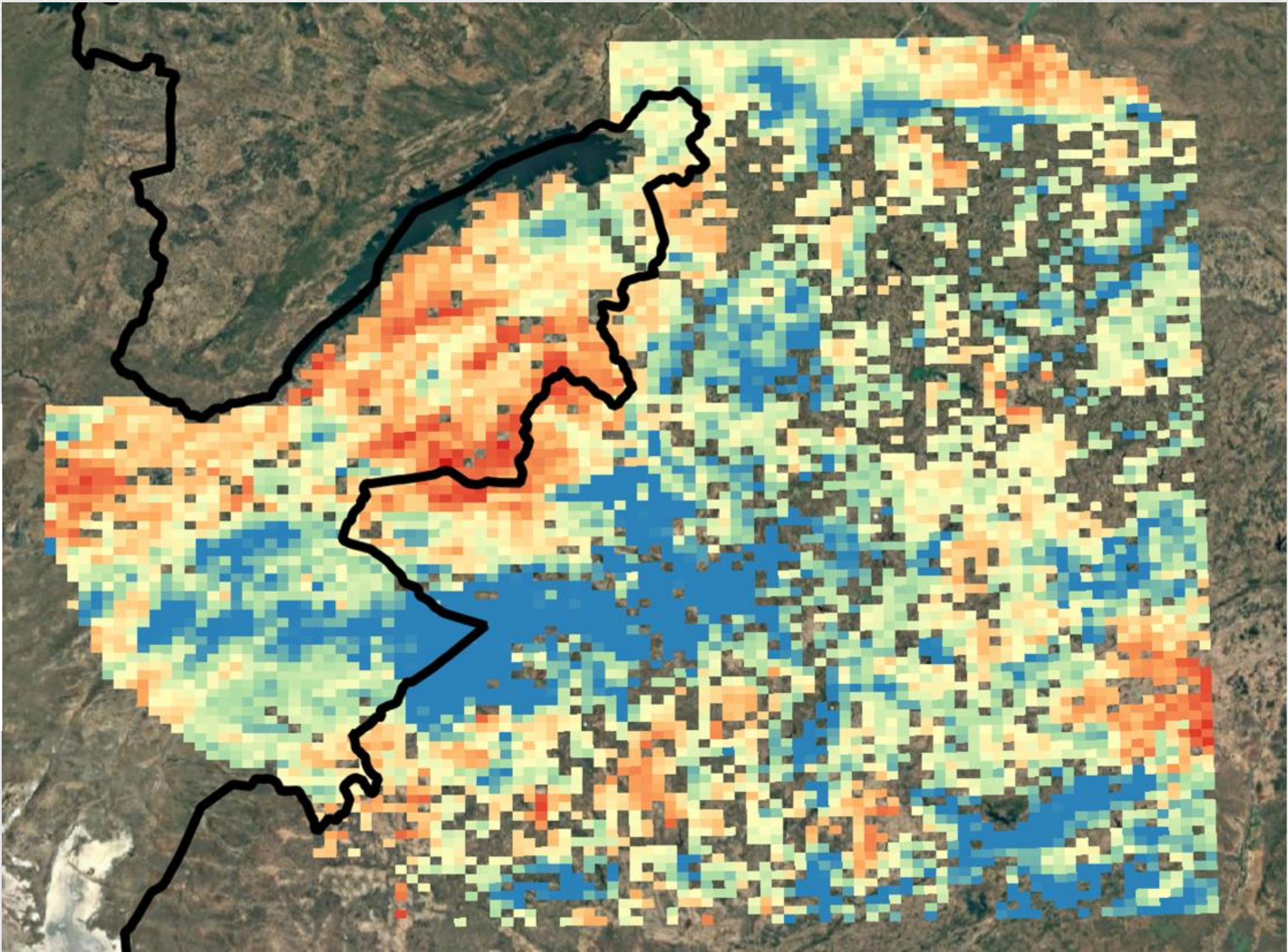
Rangeland Assessment

Kavango–Zambezi Transfrontier Conservation Area
Current Grazing Capacity (NDVI derived)



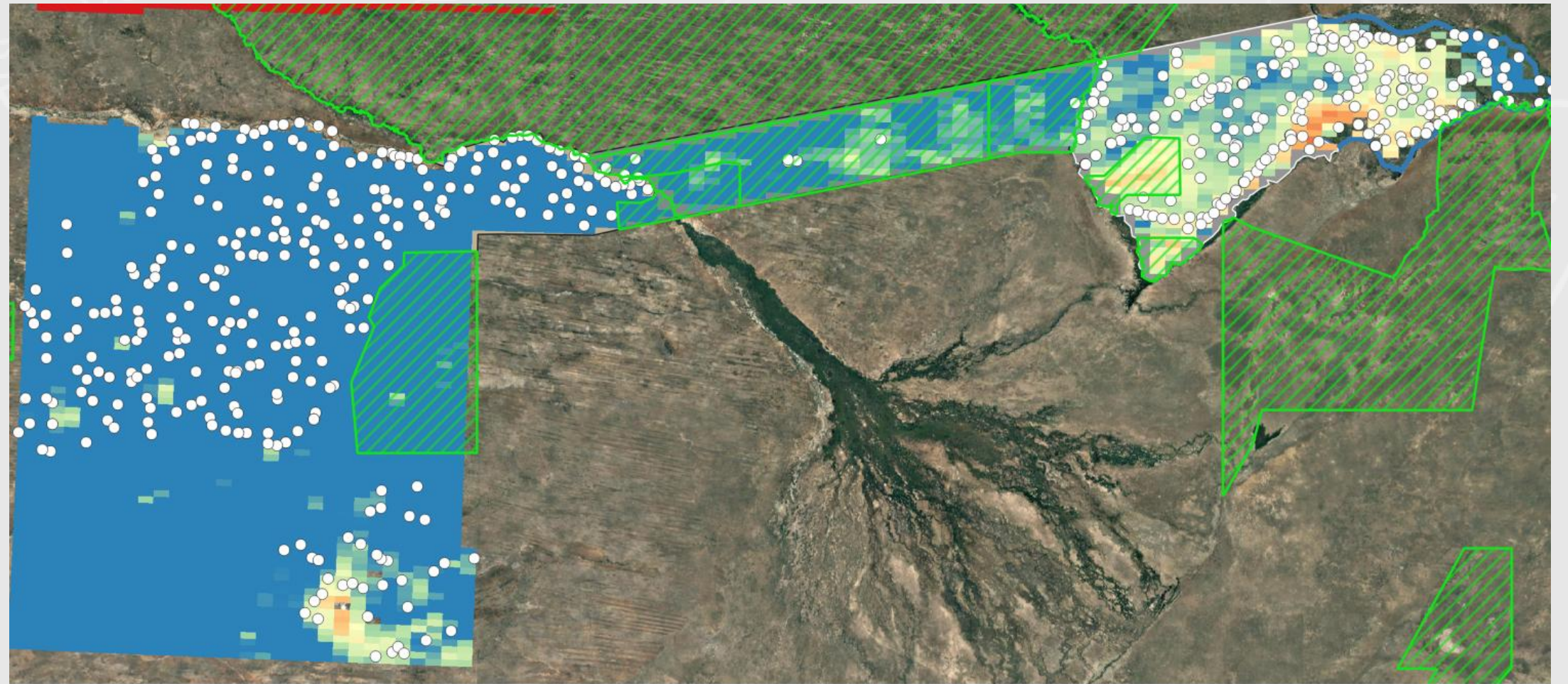
Livestock Distribution: Cattle over- and understocking

Zimbabwe:
- Add shoats & wildlife

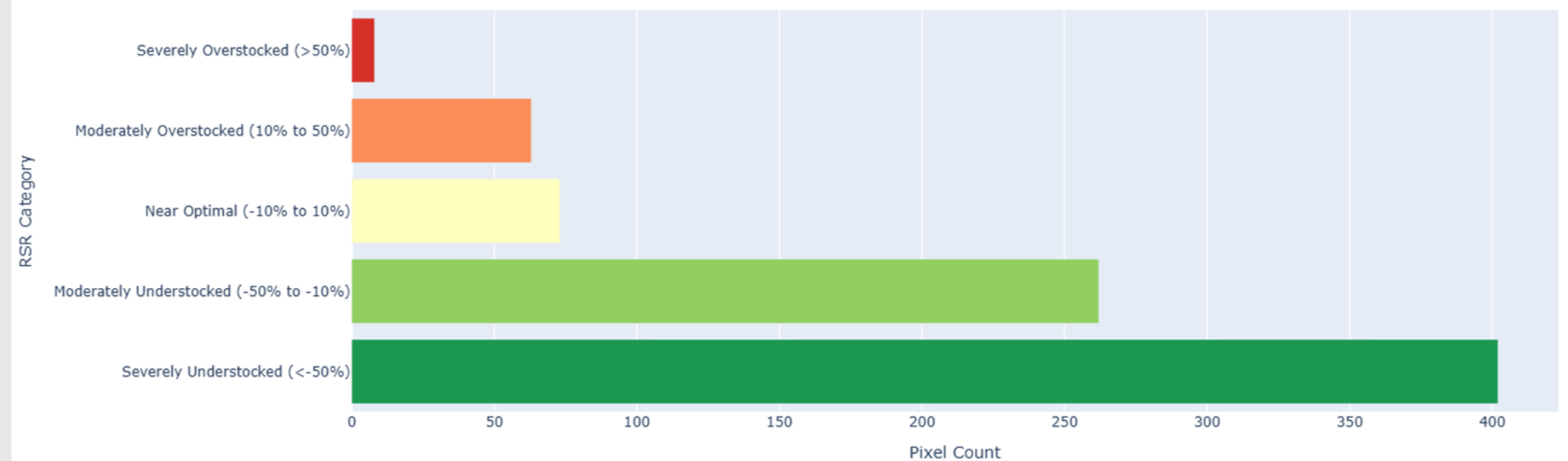


Livestock Distribution: Cattle over- and understocking

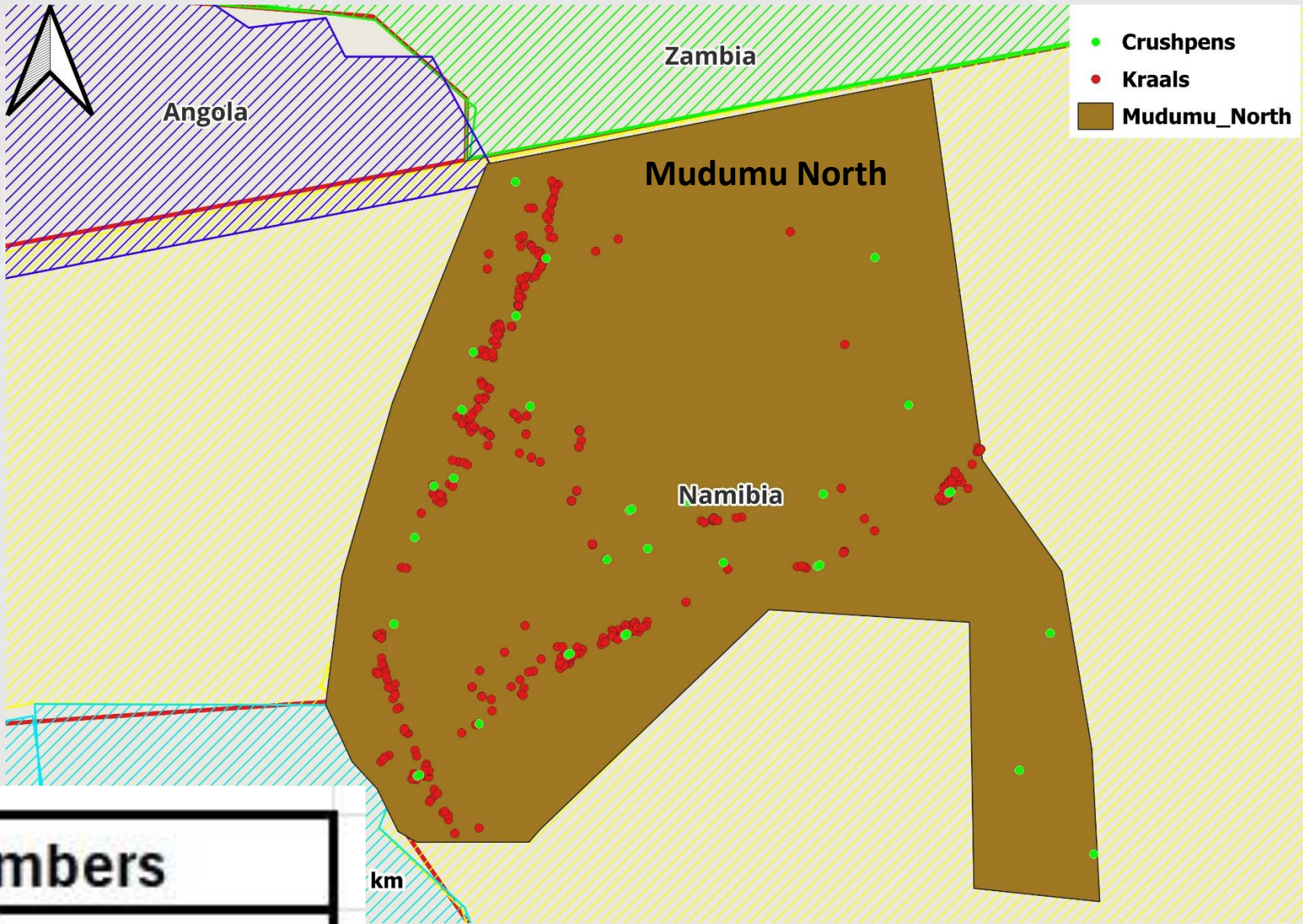
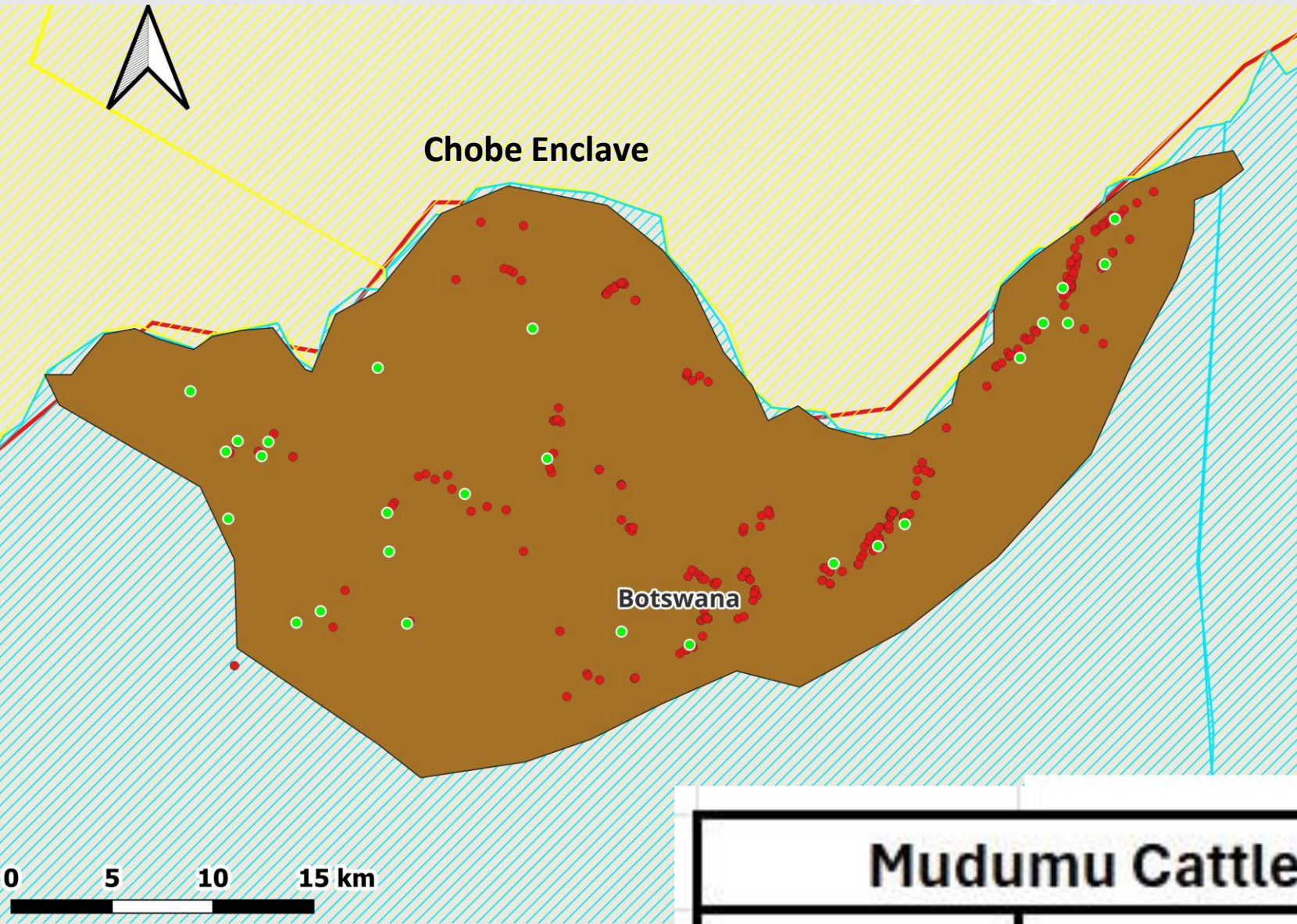
Namibia:
- Add shoats & wildlife



Area Distribution by RSR Category



Livestock Distribution: Kraal vs Crushpen



Mudumu Cattle Numbers		
Crushpens	Kraals	Percentage
13,621	15,136	90%
Chobe Enclave Cattle Numbers		
Crushpens	Kraals	Percentage
6,737	13,892	49%

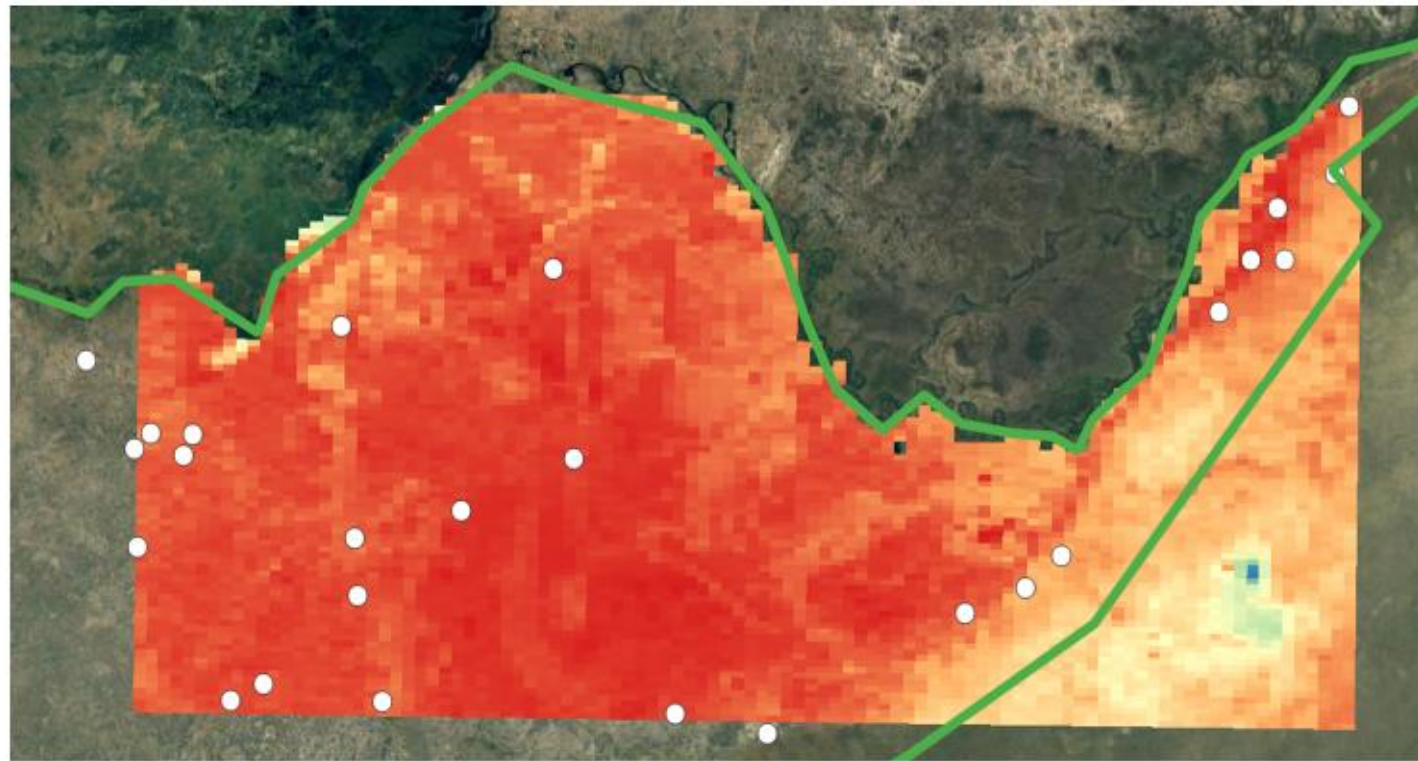
DVS = ~13,500

Livestock Distribution: Kraal vs Crushpens

Probably because the crushpen data are only a subset of the Kraal and thus the spatial interpolation is based on less nuanced data

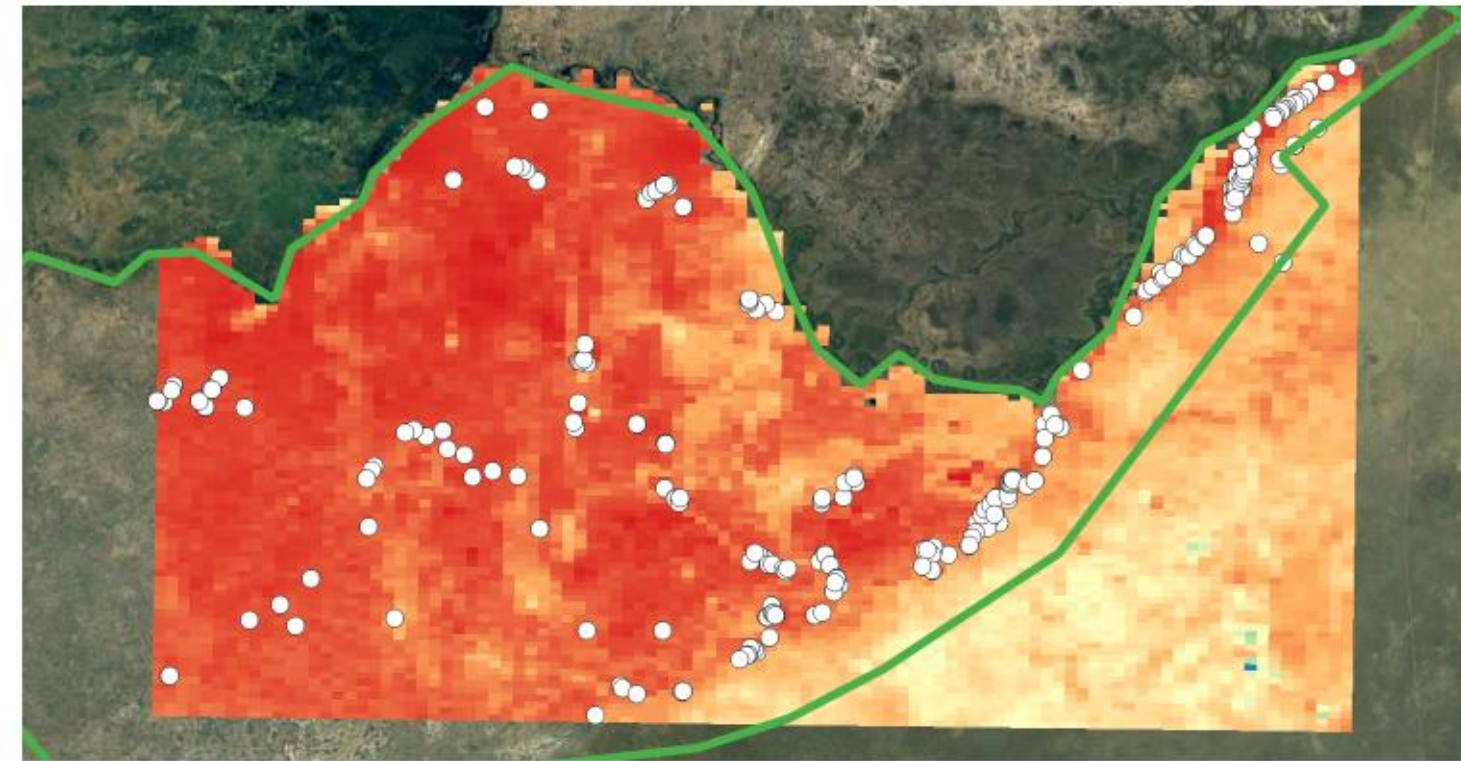
CRUSH

Mean distance between points: 264 m
Number of points: 28

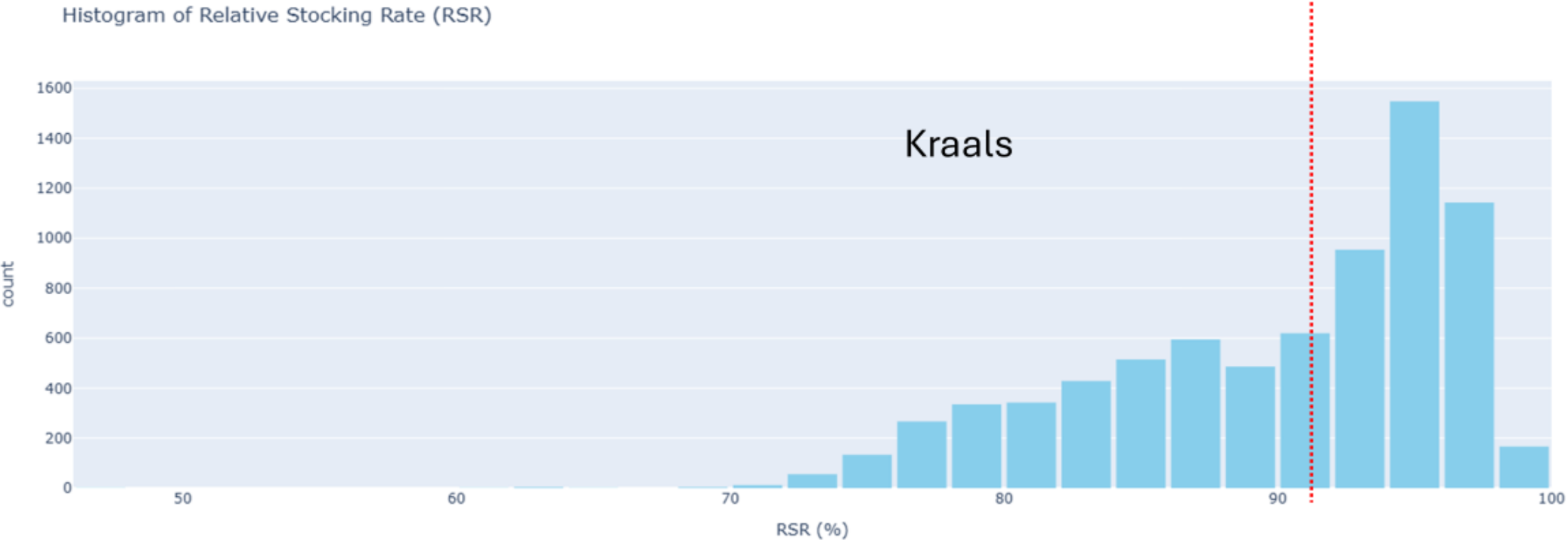
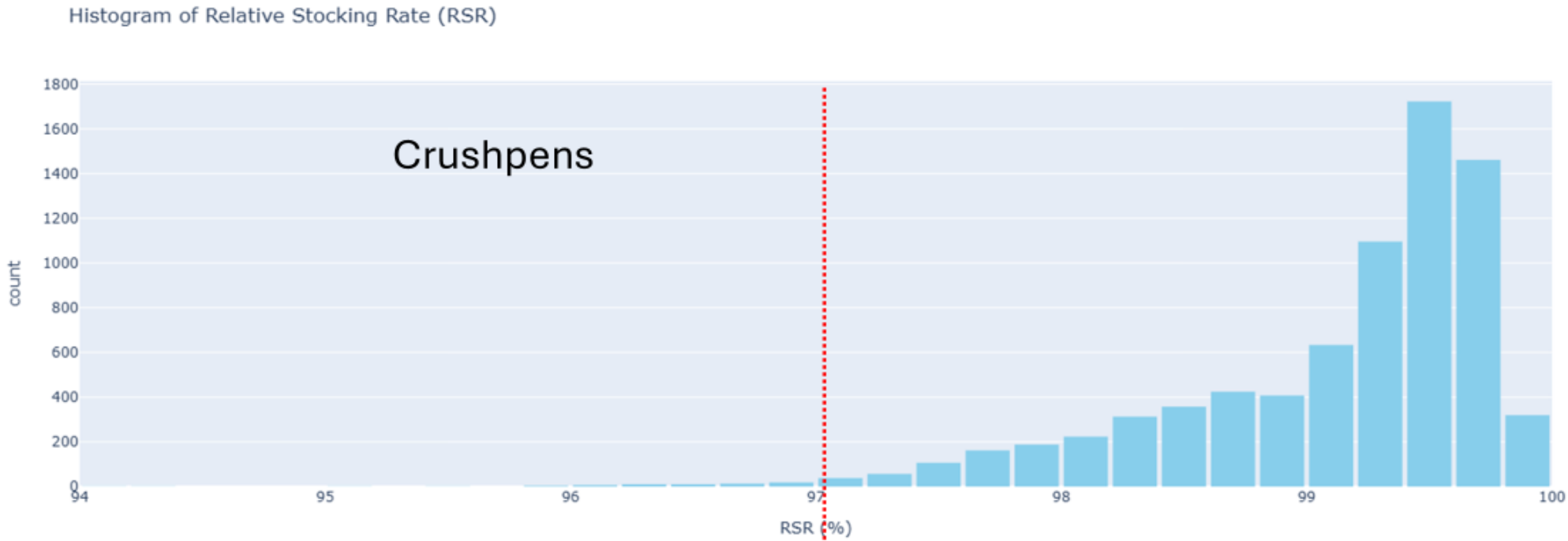


KRAAL

Mean distance between points: 227 m
Number of points: 313



Livestock Distribution: Kraal vs Crushpen data



CRUSH PEN DATA
EXAGERRATE
OVER-STOCKING
IN CHOBE

Livestock Distribution: Conclusions

1. Complete (missing) data sets: (Is this Phase II?)
 - Assist with coordinates where we can't link animal and spatial data
 - How best to go about this?
 - Phase I – get available data that is just not yet matched
 - Phase II – support gathering of data that is not available yet
2. Develop a KAZA template and repository for continuous updating
3. Map livestock slaughtering and processing facilities
4. Spatial analyses on how dataset support KAZA TFCA mandate & development objectives
5. Share data sets and analyses for National DVS usage



Thank You

